Animator Skill Test

(Trace, Tap-wari Skill Test: Levels 6 & 5)

The making of Japanese anime explained in detail!

- The various animation job types
- Japanese-style technical terms clearly defined and described

In-depth explanations of basic anime techniques:

- Tracing “genga” (keyframes)
- “Me-pachi” (blinking); “kuchi-paku” (lip movements)

The world's first guidebook covering the very same content used to train newcomers at actual anime production studios!

Endorsed by many anime studios!
Suitable for both fans and those looking to become professionals!

アニ検

Animator Skill Test Trace, Tap-wari Skill Test: Levels 6 & 5 Nippon Anime & Film Culture Association

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Animator Skill Test

Trace, Tap-wari Skill Test: Levels 6 & 5

NAFCA
Nippon Anime & Film Culture Association

Introduction

The anime industry is very similar to the world of martial arts, in the sense that there are many "styles." Originally, newcomer animators would learn the basics in the style of their seniors at the studio. This is because, as far as creativity was concerned, having freedom in various styles was considered a good thing. For that reason, in the 60 years of its history, there was no real attempt to standardize the internal rules of the industry.

However, in recent years, even though the workflow is not standardized, freelancers have begun to transition over to digital tools. On top of that, due to industry-wide understaffing, the participation of amateur animators has been on the rise. As a result, the production floor has fallen into disarray with many lacking proper knowledge of the rules and etiquette, let alone differing styles.

Therefore, putting together this textbook and skill test, we surveyed many veteran animators in order to decide whether or not we should incorporate the steps involved in the douga production process using digital tools. However, we arrived at the conclusion that to understand the very fundamental basics of anime production, such as "cel-kasane," "kumi," and "gousei," it's a lot better and more efficient to learn the techniques using actual paper and physical materials before moving on to working digitally. In commercial animation, which has a lot of divisions of labor, there is an eternal pursuit for more efficiency and less waste. We believe that gaining a solid foundation of knowledge using paper and then transferring that to digital tools is the best way to reduce chaos in animation studios.

Of course, with new software being developed all the time constantly causing changes in rules and methods, we expect that when you start your career as an animator properly, there will undoubtedly be instances where the contents of this textbook will contradict what your seniors at the studios teach you. In those cases, you should prioritize the teachings of the company and your seniors. Having said that, we firmly believe that the basic knowledge presented in this book will prove to be useful.

We produced this textbook and skill test in collaboration with many like-minded volunteers with the aim to help kick off the careers of newcomers to commercial animation production in a fun way.

Our deepest gratitude goes out to all of the contributing staff involved in its production.

The Animator Skill Test Executive Team

Notes on Translation

Greetings! Firstly, the editors, translation team, and all the staff at NAFCA would like to express our deepest gratitude for your support in this endeavor to produce an English language edition of the first textbook for the Animator Skill Test.

The goal of this textbook is to introduce and explain precise techniques used in standard Japanese animation production mostly for beginners and amateur readers, and to encourage a hands-on approach to understanding them. It was necessary to decide at the start of the translation process how to translate certain industry-specific terminology and phrases in order to most accurately convey the exact concepts, as any ambiguity could result in misunderstanding of the processes that the book intends to teach.

With proliferation of the internet and social media, information regarding how anime is made is becoming increasingly easier to come across. Moreover, these sources of information are compiled into datasets and later exported as AI-summarized simplifications, which are rapidly becoming more and more common, serving as their own sources themselves.

While such information may be reliable to an extent for someone who is simply curious about the basic concepts behind animation production, we expect that the readership for this particular textbook – those who may hold ambitions to work in the field of Japanese animation in the future – demands reliability and authority of the professionals, and, as a result, we have opted to prioritize unambiguousness and fidelity in our usage of terms for the purposes of this book, even if perhaps at first it may appear to excessively rely on Japanese words.

One example of this would be an English word "frame." What could it mean? Even within the animation industry, it is frequently used in a variety of contexts, and therefore carries different connotations. For example, "frames" of film (koma in Japanese) and "frames" of animation (genga/douga) are not the same thing. Using the word "frame" in both cases would then be inherently ambiguous, thus inviting the risk of misunderstanding. Additionally, the English word "frame" has also actually been imported as a loanword into the Japanese animation industry and denotes a printed black border on "layout paper" that indicates what area of the image will actually appear on screen. We have already counted three different meanings that we would need to differentiate between even before we get to the usage of words commonly recognized as animation lingo, such as "key frame" and "in-between frame."

The Japanese terms do not necessarily have one-to-one equivalents in English. Therefore, for the sake of an unequivocal and clear solution, we have opted to use the Romanized Japanese terms in many cases, such as genga, douga, tsume, etc. for concepts which cannot satisfactorily be translated into an English word while retaining all of their nuances and connotations. These terms are all explained in their respective sections, and the glossary at the back of the book serves as a quick reference guide to the meaning of each. Conversely, other common Japanese industry terminology which neither needs too much explanation as it is not a unique concept nor suffers from ambiguity (such as "iro-trace") is simply translated to its most concise English language equivalent (in this case, "color tracing," or something similar to suit the context).

We hope that this helps clarify any confusion in understanding the ideas underpinning the process of creating Japanese animation, and why this specific approach was taken for the purposes of this textbook.

Please enjoy the book! We are looking forward to seeing your future creations!

-The Translation Team

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Kagemaru

He wants to be an animator, but he's a dog, so it's a bit hard for him.

Hokuto Mochizuki

A ninja elementary school student. She is helping out her loyal dog Kagemaru, who says he wants to be an animator.

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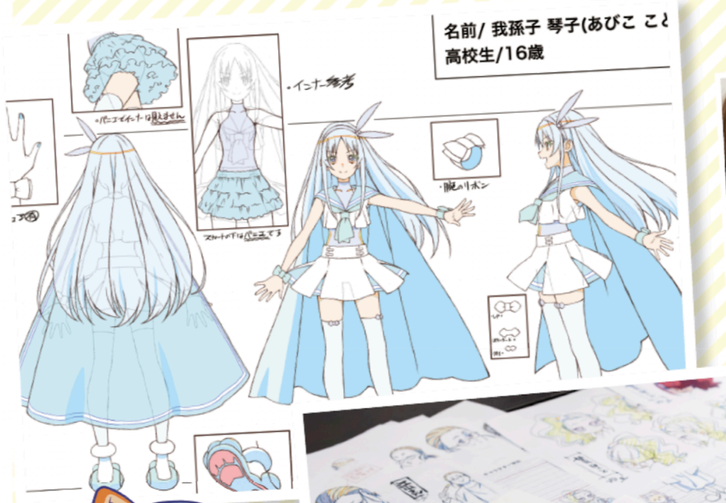
The Animator Skill Test
Tracing and Tap-Wari Test: Levels 6 & 5

It's fun to make drawings move! Become an animator!

What kind of job is an "animator"?

Have you ever drawn a flip-book? If you make slightly different drawings on each page and flip them back and forth, the drawings look like they are moving, right? The concept of anime is the same. The main job of an animator is to draw the key positions of those flip-book drawings, called genga, and then to connect the various genga together and create smooth movement. This process is called douga.



It's a job where if you have enthusiasm and ambition, you really can aim high!

The anime-related market is said to be a massive industry worth 3 trillion yen, but the pillars it is standing on are individual animators.
It is a job where if you refine your craft and hone your skills in giving a sense of performance to your drawings, you can expect high earnings.
If you are someone who loves drawing so much that you lose track of time you are welcome to join us!

note There has been an increase in problems arising from people receiving requests for animation work through social media. We ask that you refrain from accepting any of those offers and first study using these skill tests (tap-wari,materials combination tests) before taking any of those jobs, especially if you have no professional experience or are a newcomer unfamiliar with the basics of animation.

If you decide that you want to become an animator, what are the ways to achieve that?

- Vocational schools (there are those sanctioned by the Ministry of Education, Culture, Sports, Science and Technology, as well as private ones)
- Animation departments in universities
- Animation coaching schools run by animators
- Training schools run by production companies

There are different places where you can learn to become an animator.
We encourage you to find what suits you best!

Working as an animator

Freelance animators

Animators who work as freelancers (independent contractors). In an August 2024 study, it was revealed that almost 80 percent of animators work as freelancers.*
Compared to other jobs, this industry has a lot of freelancers, so let us take a look at what the advantages and disadvantages are.

Advantages

You can work on your own time, at a place of your choosing: You are free to work whenever and wherever you like, as long as you submit the work by the deadline.
You can work on the shows you like: You can choose the show you want to participate in from the various work requests you receive. If you do not find the conditions suitable, then you can choose to opt out.
It is easier to negotiate the price: If you become a highly-skilled professional, you can negotiate your price according to the specifics of the work, and eventually expect high earnings.

Disadvantages

There is no guarantee of earnings: You will not receive any income if you miss work due to illness, or if there are no work offers. You also cannot receive any unemployment benefits.
The cost of health insurance is higher: Unlike being employed by a company where they split the cost of social security with you, the cost of the national health insurance is more expensive. NAFCA members who are registered as industry professionals are eligible to apply for National Health Insurance for Artists and Writers, which in some cases has a cheaper insurance rate.
You have to do your tax returns: In the case of company employees or part-timers, the company manages the taxes at the end of the year, but freelancers have to calculate their tax returns on their own.

Average hourly income of a freelance animator: 1,497 yen*

Company employee animators

Animators who work on a contract of employment with a production company or such. A figure of 20 percent of the whole might not sound like much, but recently there has been an increase in companies more willing to employ workers full-time at the start of their careers. How is it different from working freelance?

Advantages

A stable income: Since many companies offer a standard monthly salary, it is easier to receive a stable income no matter how many drawings you produce.
Social security: Health insurance, employment insurance (such as benefits for when you miss work or severance pay), pension payments, etc. are all subtracted from your salary and paid for you, so you don't need to manage any of it, and in case you need them, there are substantial safety nets.

Disadvantages

No guarantee that you will be involved in a show you like: You have to work on whatever title the company has been contracted to produce, so you won't necessarily work on shows that you like.
The place and time of the job is set: Although recently remote work has been on the rise, it is still mostly the case that you have to work at a specific location, for a specific amount of hours.

Average hourly income of a company employee animator: 1,170 yen*

*Source: NAFCA "Survey of Workers in the Anime Industry"

Let's file our taxes!

In Japan, if you work as a freelancer (independent contractor), you need to file your tax returns every year.
It is required that you state how much earnings and expenditures you had, and how much tax applies for the year starting from January and till the end of December.
It must seem extremely daunting the first time you do it. There are help desks in place if you need advice, so please feel free to take advantage of those services if you have issues.
At NAFCA, we organize tax return and accounting seminars, so please feel free to register for free if you want to watch videos on the topic and ask questions at the seminars!

Where to make inquiries concerning filing tax returns

- **Tax Office** (Make sure you go to the tax office in the area of your residency)
- **National Tax Advice Hotline** (Call them if there is no tax office near you)
- **Tax Advice Chatbot** (You can ask it questions through the official homepage of the National Tax Agency)
- **Aoiro Shinkokukai** ("Blue Return System association") (You need to sign up and file blue returns)
- **Other free-of-charge advice consultations** (There are many of these at your local Chamber of Commerce, accountant associations, municipal offices, etc., so make sure to do your research!)

Woof! I'm not sure if I can do it properly…

Try it yourself first!
There are also consultation meetings with accountants available for free!

At NAFCA, we hold seminars to learn about money matters aimed at those who are starting with filing their own tax returns! If you sign up for the membership free of charge, you can also view older seminars, so take this opportunity to register now!

Entry level
"Questions OK! Filing Tax Returns Seminar"
SEM08

Super Beginner Level
"Useful for Filing Your Tax Returns! How to keep an account book and basic knowledge about taxes Seminar"
SEM07

Kagemaru visits an anime studio

Excuse me…!

Hello there, and who might you be?

I'm Kagemaru, Hokuto Mochizuki's cute loyal subject canine ninja! I want to become an animator so I came to this local anime studio to seek guidance, woof!

Well, your keen interest is very commendable. My name is Eyama, I'm a douga-kantoku of an anime studio called Takuranke.

Are you here for a tour? I'm a producer at Takuranke, Kondo. We heartily welcome any and all aspiring animators! Take a good look around and study well!

Thank you so much, woof! What kind of anime do you make here at Takuranke?

We've been in the business of producing anime for 40 years! We've done various Pokémon series, and a lot of anime work for TV and movies.

Really? Wow, that's amazing!

Since you're here, why don't you try drawing something, Mr. Kagemaru?

Are you sure? I'd love to draw something! Woof!

Right, since today we'll be doing the animation beginners course, let's have you start off by tracing genga.

I can't believe I'm experiencing what it's like to draw in an actual anime studio, I feel like I'm essentially a professional! Woof!
I can't wait to go home and report to Lady Hokuto that I became an animator! Woof!

…Having said that… What does "tracing genga" mean?

Genga tracing is a process of cleaning up genga lines, so that they can be used as douga.

A clean up? So it's just tracing over some rough lines? That sounds easy, woof!

Very well then, let's get started by first introducing all the tools we'll need!

Meet the instructors

Rie Eyama

Notable works:
Millennial Actress, Steamboy, Mobile Suit Z Gundam, Mobile Suit Gundam ZZ, Pokémon (various series), City Hunter: Bay City Wars, The Prince of Tennis The Movie – The Two Samurai: The First Game

There are many gateways into the anime industry. There are those who enter the industry after going through an anime vocational school, as well as those who use the opportunity of having studied under an individual animator as an apprentice to find work in the field. Even after entering an anime company the type of instruction one will receive varies depending on one's senior. Recently, there are cases of people working in animation who have not been able to receive any training at all, but were scouted through social media by production assistants.
For these reasons, we decided to put together at least some of the key points that people should know, and things that should be passed on to the juniors. Of course, that is not to say that the content of this book is the only correct way, nor that there is only one goal to strive for.
The role of the douga staff is very important. It entails passing the drawings of the genga staff and sakuga-kantoku down to the shiage staff. The drawings that are seen on the screen are the ones made not by the genga artists or the sakuga-kantoku, but those line drawings produced by the douga staff. I would like everyone to really take that to heart and draw every line with great care and dedication. Let's try our best together.

Tomoko Fukui

Notable works:
Muteking The Dancing Hero, Super Dimension Fortress Macross, Fist of the North Star, Digimon (various series), Tetsujin 28 (2004 version), Naruto, Tengen Toppa Gurren Lagann, Hayate the Combat Butler

I have loved drawing ever since I was small, having sketched bust sculptures observed from 360 degrees back in high school. One day I realized I was actually drawing as a child all the time. It has now been around 45 years since I started working in anime, and having done both genga and douga, I believe that the more you think about it and the more you observe, the more interesting douga and naka-wari work becomes, it is incredibly profound.
If you strive to become a genga animator, then I would like for you to first learn the joy of making things move through the process of douga and naka-wari. It is really fun and rewarding to take a skillfully-composed genga and put it into a douga. Douga is a very tough process, but I have never thought of it as a struggle. I'm looking forward to the day when I can share this enjoyment with you all.

Who is a douga-kantoku?

A douga-kantoku, also called douga-kensa (dou-ken), often used to be involved in training new douga staff. However, an exponential increase in the number of titles spurred on by the recent popularity of anime led to a lot of the douga work being outsourced overseas, which resulted in lack of training opportunities for douga staff within Japan. Because this situation has continued for over ten years now, the average skill level of genga staff who were not taught douga has fallen, which is why the anime industry is now in danger of losing the know-how to train newcomers altogether.

Many animators also place a mirror they like and use it while working to have something to refer to when creating poses.

Animator's desk (analog version)

Model sheets (settei)

Automatic pencil sharpener

Lead holder
Lead sharpener

Tablet
(used for referencing the model sheets)

Color pencils

Tape cutter

Tap

Feather duster

Ruler

Erasing plate

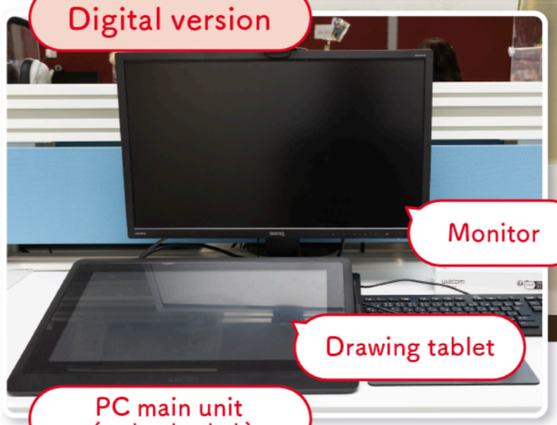
Electric eraser

Eraser

Pencil

Lightbox

Digital version



Monitor

Drawing tablet

PC main unit
(under the desk)

There are still many animators who work on paper to this day.
It's likely that both analog and digital work styles will continue to co-exist for another ten years or so.

Feather duster

From 1,078 (tax incl.)

Use this to keep the paper clean from eraser shavings etc. There are brush types available, too.

Ruler

100 yen stores ones are perfectly fine to use

Used when necessary during drawing.

Clip

100 yen stores ones are perfectly fine to use

Used when doing tap-wari.

! Regarding digital tools

In this textbook for the Animator Skill Test, we will mostly be explaining the analog animation process that is based on using paper to draw. There is research that shows that humans memorize things more quickly and efficiently through analog methods – in other words, using physical pencil and paper tools rather than digital ones. Start off by using pencils and paper.

The Animator Skill Test is analog, but if you want to start off with digital tools, you should gather the following. These are the costs for digital tools.

(*All are entry models as of April 2024)

Drawing tablet	From 30,000 yen
Laptop PC	From 110,000 yen
Desktop PC	From 100,000 yen + Monitor from 15,000 yen

+ Software (Clip Studio Paint, TVPaint Animation, etc.)

COLUMN

Are they really poor?! About animators and money

Are low wages and long hours the norm in the anime industry?

According to the latest surveys, the average amount of working hours for the anime industry as a whole is 225 hours, and the hourly wage was calculated to an average of 1,111 yen per hour. Looking at this figure, it indeed gives the impression that this is not an easy job to earn a living from.

Let's look at the figures in a little more detail. It's true that, among the newcomers to the job who are in their 20s, around half earn less than 800 yen per hour. However, if they hone their skills and continue to advance in their careers, around 40% will earn over 2,000 yen per hour. Over 10% of the respondents said that they earn over 3,600 yen per hour. In other words, they make over 10 million yen annually.

According to a survey from the National Tax Agency, out of 52.7 million income earners only 5% make over 10 million a year. It can therefore be said that animators work in an industry that is more performance-based compared to average companies.

In other words, the job of an animator is a special one where you have the opportunity to earn a lot as long as you develop your skill set.

That said, it is true that, just as it was before, newcomers still have it really tough! Recently, companies are increasingly starting to recruit full-time employees, so we are currently trying hard to continue to improve working conditions in the industry!

Tools animators use

These are the essentials, make sure you get them!

Color pencils (for iro-trace)

From 176 yen (tax incl.) each

These are used for marking shadows and highlights (iro-trace). Please refer to the sakuga-chuui-jikou for details. For shadows and highlights it is recommended to use Mitsubishi-brand "uni ARTERASE COLOR" types, as they are designed to be erasable with a regular eraser.

Color pencils (for coloring the back side)

From 61 yen (tax incl.) each

Soft stroke color pencils, used for coloring the back of the drawing sheets. Using cheap types is fine for this.

Electric sharpener

3,000-5,000 yen (tax incl.)

These feature a function that prevents wasteful sharpening. They sharpen the pencil to the most appropriate length.

Electric eraser

1,000-13,200 yen (tax incl.)

With this you can erase very small, specific areas with precision. These are convenient as they are faster and erase more cleanly than regular erasers.

Eraser

From 77 yen (tax incl.) each

Use this to erase wrong lines.

Erasing plate

From 220 yen (tax incl.)

Use this when you need to erase specific lines only.

Lightbox (A3 size)

4,600-16,700 yen (tax incl.)

It is used when you need to trace drawings and overlay them when creating motion. By turning on the light, you can see the lines from the drawings underneath. It is recommended to use the Treviewer series models, as they are the standard used by professionals.

For the Animator Skill Test, please prepare a lightbox with at least a 2m long power cable.

Tap

880-7000 yen (tax incl.)

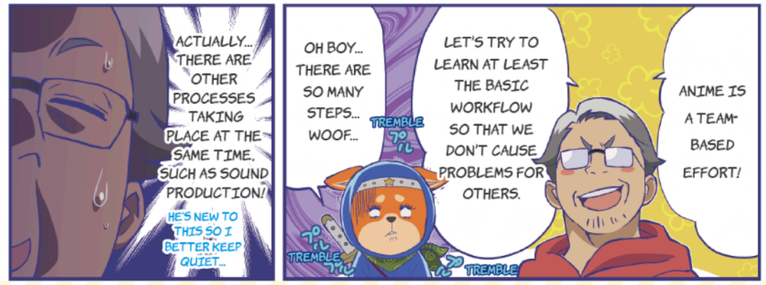
This is an essential tool for animators used to firmly hold the drawing sheets together in place.

Pencils

From 924 yen (tax incl.) per dozen

These are used to draw black lines. The feel of the strokes when drawing varies depending on the manufacturer, so it is recommended that you try many different ones. You should use B or 2B types. You can also use a lead holder. Avoid mechanical pencils, as you will not be able to vary the line weight with those.

Anime production workflow
(for the sakuga department)



The enshutsu staff needs to have a lot of meetings, huh… Woof..

If there is a CG layout, the CG staff and the enshutsu staff will produce it before the animators start working on it.

- Scenario meeting
- E-konte (storyboard)
- E-konte kantoku (storyboard director) check
- Enshutsu meeting
- Sakuga meeting, (sou) sakuga kantoku ((general) animation director) meeting

Ichi-gen (First genga)

- Genzu, layout/rough genga (ichi-gen)

Layout (L/O), ichi-gen check

- Genzu/rough-gen enshutsu check
- Genzu/rough-gen kantoku check
- Genzu/rough-gen action sakuga-kantoku check
- Genzu/rough-gen sakuga-kantoku check
- Genzu/rough-gen sou-sakuga-kantoku check

Ni-gen (Second genga)

- Genga
- Genga enshutsu check
- Genga sakuga-kantoku (often shortened to "sakkan") check

Bijutsu (Background art)

- Haikei (background)
- Haikei enshutsu check

CG

- CG animation
- CG enshutsu check

Douga, shiage

- Douga kantoku maki-mae (pre-distribution) check
- Douga
- Douga kantoku check
- Iro-shitei (color directions)
- Shiage (finishing/coloring)
- Shiage check

- Hon-satsuei (hon-satsu for short; "compositing")
- Rush checks
- E-genban
- Video editing
- Finish!

This indicates steps which may not be present depending on the show.

There are many other members of staff apart from animators who are also involved in the production! Woof!

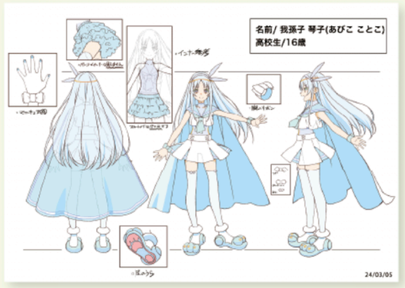
If you know what type of work each section does, it`s a lot easier to work together!

What kind of job is an "animator"?

There are six types of "animators" overall!

- Character designer
- Genga
- Sakuga-kantoku
- Sou-sakuga-kantoku
- Douga
- Douga-kantoku

Character designer ("Kyara-deza" for short)



Q Is a character designer needed if a show is based on a manga?

A This is a role which is absolutely necessary for any type of show: a character designer must produce front, side, and rear views of characters without any discrepancies, with clearly-defined linework that is adjusted for animation/movement so that other staff involved is able to clearly understand and work from it to give motion to the characters.

How does one become a character designer, woof?

Oftentimes a competition is held by the production committee. In cases when an anime is based off an existing work, the opinion of the original creator is most highly valued, and sometimes there is no competition at all and somebody is specifically nominated!
It is a rare opportunity to be picked as a character designer, so most usually work as sou-sakuga-kantoku, sakuga-kantoku, or genga staff.

Genga

Q What type of work do they do?

A They draw the layout (composition) and plan out the performance of the characters by drawing out key points of a movement.
They need to have profound knowledge of camerawork, cinematic performance, perspective and angles of view, so it's a very difficult but very rewarding job.

Things they must do for people in the later stages of the workflow

They base character acting (movements) on the e-konte, and compose a timesheet. This timesheet contains instructions for all the production stages working on a single cut. The genga staff needs to have a high level of knowledge regarding every step of the production of animation footage, since they have to provide instructions to the douga, haikei-bijutsu and satsuei staff.

Sakuga-kantoku ("sakkan" for short)

Q What type of work do they do?

A Their job is to take the genga staff's drawings in the 300-400 cuts that make up a single episode of an anime and modify them to make them look more similar to the provided character designs. Recently, there are many people on the sakkan staff per episode but traditionally it's considered better to have a single person doing the job for a more unified look. Their main job entails checking the quality of the genga and making corrections, but another very important part of their work is improving the quality of the characters` expressions and their acting. In other words, correcting what is known as "kyara-bure (character deviation)."

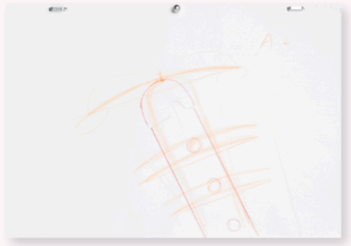
How does one become a sakuga-kantoku, woof?

They are selected for the job if they are particularly high-skilled in genga, and if they are good at drawing the characters accurately to the designs!

Things they must do for people in the later stages of the workflow

They need to make sure that there are no discrepancies in the layout or the performance of the characters, as well as check that there are no mistakes in the materials.

Douga-kantoku (or douga-kensa, dou-ken)



Q How does this differ from the job of the sakuga-kantoku?

A The douga-kantoku prepares the sakuga-chuui-jikou, carries out checks so that there is nothing missing in the genga materials to be handed over to the douga staff (this process is called maki-mae check), and then checks the resulting 5,000 to 8,000 douga drawings once they are completed, making corrections if the movement seems unnatural.
This is a very important job necessary to guarantee the stability of the animation.

Things they must do for people in the later stages of the workflow

As the final checker in the sakuga process, before advancing to the shiage and satsuei sections, the douga-kantoku must correct any issues in the materials and/or send them back to the previous stages.

How does one become a douga-kantoku, woof?

Once you've built up enough experience in your career as douga staff, most often you can consult with the production assistant and choose to go down the path of either genga staff or douga-kantoku staff. There are many drawings you will need to check, so it is a difficult job to perform if you are not fast and skilled enough at it.

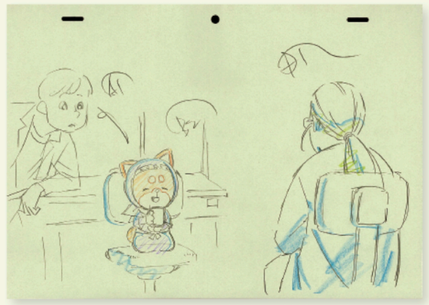
! The branching of the animator's career

Many animators start off working as douga staff. Once they have reached the point when they can produce 300-500 douga drawings per month, that's when they are first able to take the genga test. This is also when they can choose the route of becoming a douga-kantoku.
The contents of the genga test vary depending on the company, but generally they mostly entail drawing layouts (ichi-gen) from e-konte (storyboard), as well as composing character performances based on prompts such as carrying a heavy object.
After passing the genga test, the animators will spend several years honing their skills while learning from their seniors.
As their genga techniques improve, they may be asked by the show's main staff or a production assistant to become a sakuga-kantoku.
Generally, once they have gained recognition for their work as a sakuga-kantoku, in subsequent projects they can then get offers to join the main staff as a sou-sakuga-kantoku or a character designer.
In recent years, it has become rather common to see animators specialized in action, mecha, effects, etc. So even putting the career path of a character designer, sakkan, or sou-sakkan aside, if you cultivate your own unique abilities, it can help build up your career.

COLUMN

Up until fairly recently, due to the increase in the number of anime projects and the worsening of schedules, there were companies that made newcomers start off from the ni-gen (second genga) stage; however, it became clear that having them first learn the basics of douga would clear up any confusion later down the line, so the industry has started to return to the normal days of companies first training their staff from the douga stage.

Sou-sakuga-kantoku ("Sou-sakkan" for short)



Q How does this position differ from the sakuga-kantoku?

A They adjust the drawings of sakuga-kantoku to make them look even more accurate to the character designs.
The character designer often does this work as well, but recently it's more common to have a number of people share this job.

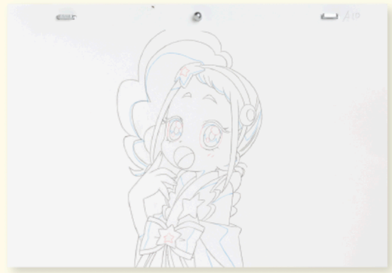
How does one become a sou-sakuga-kantoku, woof?

Basically, it's often the case that a sakkan who is particularly skilled at rendering the characters most closely to the designs is chosen for the job!

Things they must do for people in the later stages of the workflow

They make the drawings match the character designs, prevent any clashing of art styles, and bring a sense of uniformity to the anime overall.

Douga



Q What type of work do they do?

A They clean up the drawings of the genga staff and do naka-wari, which means adding "in-between" drawings. When you watch anime on TV or on your phone, the drawings you see are those made by the douga staff.

Things they must do for people in the later stages of the workflow

They need to read and follow the sakuga-chuui-jikou very carefully when doing the clean-up and naka-wari so that the work of the shiage (coloring) and satsuei staff goes smoothly.

Master and Apprentice Cross Talk

Rie Eyama

NAFCA committee member and douga checker (director) at Takuranke, Rie Eyama, and animator Satoshi Koike, who has worked on many shows as character designer and sou-sakuga-kantoku (chief animation director), are, in fact, master and apprentice. When Koike was a newcomer on the scene, he learned the foundations of anime from Eyama, who taught him douga techniques.
In this section, the two of them share details about the "Eyama-style" teaching methods, the hardships, and the fun of douga – the first hurdle an animator has to overcome early in their career – and, finally, the job of a douga checker, who has to oversee the douga drawn by the douga staff.

Satoshi Koike

Master Rie Eyama

CEO of Takuranke Co., Ltd. Douga-kantoku (douga director). Director of NAFCA as of 2024. She has worked as a douga-kensa (douga checker) on series such as Mobile Suit Z Gundam and Pokémon.

Apprentice Satoshi Koike

Animator. Character designer on Symphogear and Soul Eater Not!; sou-sakuga-kantoku (chief animation director) on Sgt. Frog. Director of NAFCA's original anime Hokuto and Kagemaru.

The work of a douga checker is also to cultivate novices

Firstly, Koike-san, could we hear about how you first met Eyama-san?

Koike:
After graduating from vocational college, I was working at an anime studio in my hometown, but they suddenly closed down. After consulting with the college, I was hired by Takuranke thanks to the introduction by my professor. When I joined in 2000, the studio was located in Kami-Igusa, and my immediate superior was Eyama-san. Because I was hired mid-career, I didn't receive formal training, so I was surprised when I was tasked with douga work on the first day (laughs).

That's incredible. One important part of the douga checker's job is to train the newcomers. Eyama-san, what type of instruction do you give fresh graduates?

Eyama:
Firstly, I have them practice tracing genga for two weeks straight, every day, as you would practice baseball swings. Once they've mastered tracing, then I would teach them tap-wari, and after one to three months of that, they can finally start to do douga work. Those who have left their parents' care learn the work very fast, and so they improve a lot more because from day one they're working eight hours a day on the front lines honing their skills.

Koike-san, was there anything about Eyama-san's teachings that left a particular impression on you?

Koike:
She told me to always write down the title, episode number, cut number, and the number of douga that I did, and keep a record of it all in a notebook. I still have it, I kept it safe, and I brought it in today. The most I drew within a few days was 121 douga drawings, it really brings me back. Thanks to that, as the number of shows I work on increases, I really feel my own growth.

Eyama-san's checks caused constant sense of unease

Animators all start from the douga stage. While most of the attention tends to be paid to genga and character design, Eyama-san, you say that it is douga that is the foundation of anime, and it is the most important step in the production process.

Eyama:
The reason why I focus so much on douga is simply because it is what appears on the screen. In other words, it is what the viewers actually see. Additionally, however rough the genga may be, the more polished the douga is, the more the quality of the work overall is elevated.
The shiage staff may be able to fix some gaps in the pixels of the lines, but they cannot fix the drawing itself, so if the douga is not proper, then you will get what is called a "sakuga-houkai" [literally, an instance where the "animation crumbles"] situation, and the entire thing becomes a mess. Through douga, newcomers can learn how to read the sheets as well as how to put together particular movements in naka-wari. Rather than aiming to reach the genga level, I want the young staff to take their time and properly learn the inner workings of animation by practising douga.
Koike:
At Takuranke, before submitting the douga, we had to first have it checked and approved by Eyama-san. This was the biggest hurdle; I was so nervous whenever Eyama-san was flipping through my douga. I'm only human, so of course I just want to get it right from the first try (laughs)! But when I was next to her as we looked at the douga, we would find choppy movements here and there.
Eyama:
It's important to trace the lines neatly in order to minimize the burden of the shiage staff who are next in line. Once the shiage work of coloring shifted to digital, that's when there was a need for the quality of the lines to be greatly improved. Because now we needed to make sure that there were no gaps in the lines once they were scanned, it became essential to introduce more training in order to refine line-drawing skills.
Koike:
I was at Takuranke for six years in total, and I consider the compiled experience of having worked on douga under Eyama-san as one of the utmost value. I had friendly competition with my coworkers, and Eyama-san would hand some work over to me and say, "You can handle this, right?" and so that motivated me to respond by giving it my all. It was very tough, but when I saw my drawings turn into footage on the screen, that sense of joy was immeasurable.

One can learn the basics of anime through douga

That's really the thrill of being an animator, isn't it? There are so many skills one can gain from learning douga.

Koike:
Without learning douga, you can't train yourself to understand how to perceive objects in space. For example, all the fine details of the linework for character's hair are different to that of their skin, so I had to pay special attention to that while I was tracing. Recently it is not so rare to see tracing done digitally, but for those just starting out, it is undeniably better to practice with pencil and paper.
Eyama:
Agreed. At the very least, you need one to two years of practice on paper, I'd say. I think it's easier to learn how various aspects of the timesheet come together in things like compositing and "book" overlays if you use paper. Working digitally, most of the time you are looking at everything already laid on top of each other, as one image, so it is not so easy to see how it is composed together.

Are there other advantages for encouraging analog methods in this digital-oriented age?

Eyama:
If you hand over digital tools to novices right from the start, they'll be dependent on the software, and they'll reach a limit in improving their own skills. I don't know if you can even reach the level of skill required for key staff positions such as the genga-sakkan if you only train digitally. Since my eyesight is getting worse, it's very convenient to be able to enlarge the image on the screen while working, so I would say that digital tools are really useful if one shifts over to them after having first honed their skills on paper. You don't even need to go to the studio, you can just work at a café or at home.
Koike:
I won't say that you must only use analog tools, but to properly consider the intricacies of the linework, it is better to practice first with analog methods When you watch completed footage, sometimes you can spot some douga where the lines don't match the feel of the character. Incidentally, back in my day, we used to draw with regular pencils as a standard, but around ten years ago we were told to switch to mechanical pencils to maintain unbroken, uniform lines after the digital scanning process.

Eyama:
It's possible to get line weight variance and draw a variety of different types of lines digitally, but the problem is that overt reliance on digital tools results in stiff lines.

"The reason why I put so much importance on douga is because those are "the drawings that will be seen on the screen." - Rie Eyama

The role of a douga checker in training newcomers

Eyama-san, you have been a douga checker for many years. The job of a douga checker is to look over the douga turned in by the douga staff and correct it if necessary – it is essentially the final bastion of the sakuga process. I understand that cultivating the development of the newcomer staff in the studio is also an important part of the douga checker's job.

Eyama:
A douga checker is, from the perspective of the newcomer staff, akin to a "teacher." Depending on the company, there may be cases where there is no douga checker on staff, and the task of teaching the new recruits would be up to the genga staff, but in the case of Takuranke, that's my responsibility. When we have a title for which we're contracted to produce by the gross (one whole episode), it is the job of the douga checker to take charge and decide which cut to delegate to whom. So for example, if there is a new staff member who says they want to draw a particular character, then the douga checker can distribute those cuts to them.

Are there times when you would give newcomers work to do in order to improve their skills?

Eyama:
In the case of gross orders, I would be in charge of managing the schedule. I think it's fine as long as I am able to brush everything up afterward, so I sometimes give work to new staff who are still not at a high level. As the new staff improve, my job also becomes easier (laughs), and as the standard of skill is raised, it directly reflects on the quality of the anime itself. So, I am driven by the notion that basically, in order to make great work, the new staff must grow.

That's very admirable.

Eyama:
Also, the douga checker is the connoisseur within a production company. This means that if we have to outsource the douga, the douga checker decides which studio to entrust each specific scene to: for example, this studio is good at robots, so they can do this cut; or that studio draws characters well, so they can do that cut. Then, when the results come back, they make corrections and then hand them over to the shiage staff. If the quality is not good, then they can tell the seisaku staff (production managers) to make another order. In cases when there is more than one douga checker, it's common that the chief among them would take charge and the deputy would be doing most of the clean-up.

The characteristics of new staff who grow

Eyama-san, I understand you have trained many newcomers. Are there any common traits in the young people who develop their skills?

Eyama:
Before someone is hired, I can often tell to an extent through an interview and by looking at their artwork if they can develop and reach the genga level. Those that are quick learners tend to change quickly; after being handed back corrections, they'll ask, "what about this line?" or sometimes ask for the same cut once again – those "voracious" types are the ones that really grow. Then there are those who draw two versions and ask which one is better: they have room for growth, but the ones who don't go very far are the ones who come back with a blank piece of paper and just say, "I couldn't do it." There's nothing for me to comment and give advice on in those cases. Since the nature of the anime production environment is based on teamwork, I think it's difficult for someone strongly looking for validation to develop.

Koike:
Yes, it's true, the voracious types really grow. When I was at Takuranke, I also used to ask my superiors or coworkers if there was something I didn't know. I even used to rummage through the rough designs and other materials that had been discarded and were in a common space, looking for sketches drawn by my skilled superiors to study them. I also think that new staff who make a point to communicate grow a lot, too. Whenever Eyama-san would hand me some douga work and say, "you can do it, right?", I would be most motivated to do my best and meet that expectation.

Eyama:
Because Koike-san was already skilled when he joined, I wanted him to gain more experience, so I gave him somewhat difficult work to do, thinking he would manage (laughs). Of course, he aced it every time, never letting me down.

So why was it that you left that environment at Takuranke and became independent, Koike-san?

Koike:
That was in 2006, around my third year of doing genga. I wanted to develop my skills even further and step up my career, so I became independent thanks to an invitation from a production assistant at Sunrise. Everyone at Takuranke was very friendly, and it was a comfortable place to work at. I am sincerely grateful to them for having raised me.

After having had the experience of being taught by Eyama-san, what do you think is the appeal of douga, Koike-san?

Koike:
It has to be the moment you see your drawings turn into actual footage. And for theatrical works, you get to see it on a big screen. The douga has been colored, the background have been attached, there are added effects, and there's sound. After all the hard work, having produced hundreds of drawings, it's very moving to see, and you feel so elated. Of course, there are also people who aim higher, they want to plan out the movements, or they want to design characters from the ground up. But in my opinion, doing douga work is where an animator can feel happiness and satisfaction for the first time. While I do think it's important for animators to have self-esteem and consider themselves skilled in order to maintain their drive, I believe it's really the people who never forget this initial emotional moment that are the ones who keep going.

"Douga is the first sense of joy you are able to have a taste of after becoming an animator." - Satoshi Koike

How much do you know?

Challenge with Kagemaru!!
3 Choice question!

Q What's the correct way to use the "tap"?

Answer A – The correct way is to place the paper on the tap, making sure the holes ("tap holes") are aligned with the pins.

Q Who makes the drawings we see on the TV screen?

A The genga staff

B The douga staff

C The shiage staff

Answer B – It's the douga staff who draws the pictures we see on TV.

Q How much of the paper should you fill with the drawing?

Till the frame line

To the edge of the paper

Inside the frame line wthout touching it

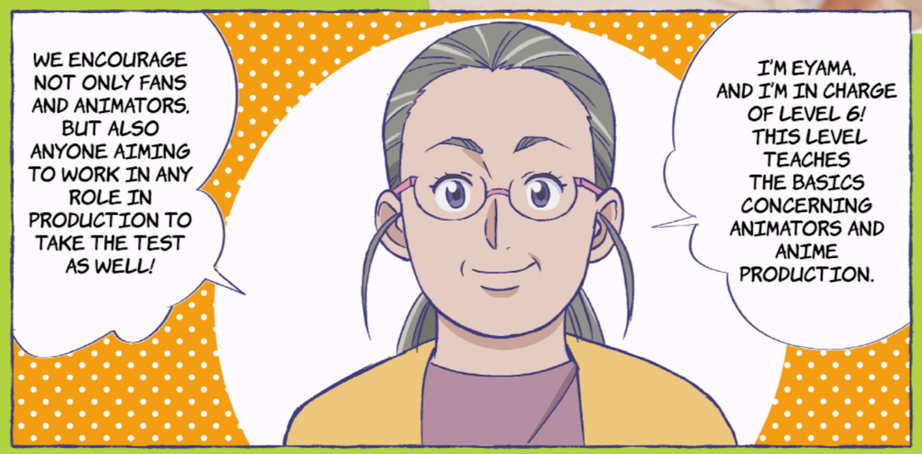
Answer B – Draw right up to the edge of the paper to make it easier in case of retakes.

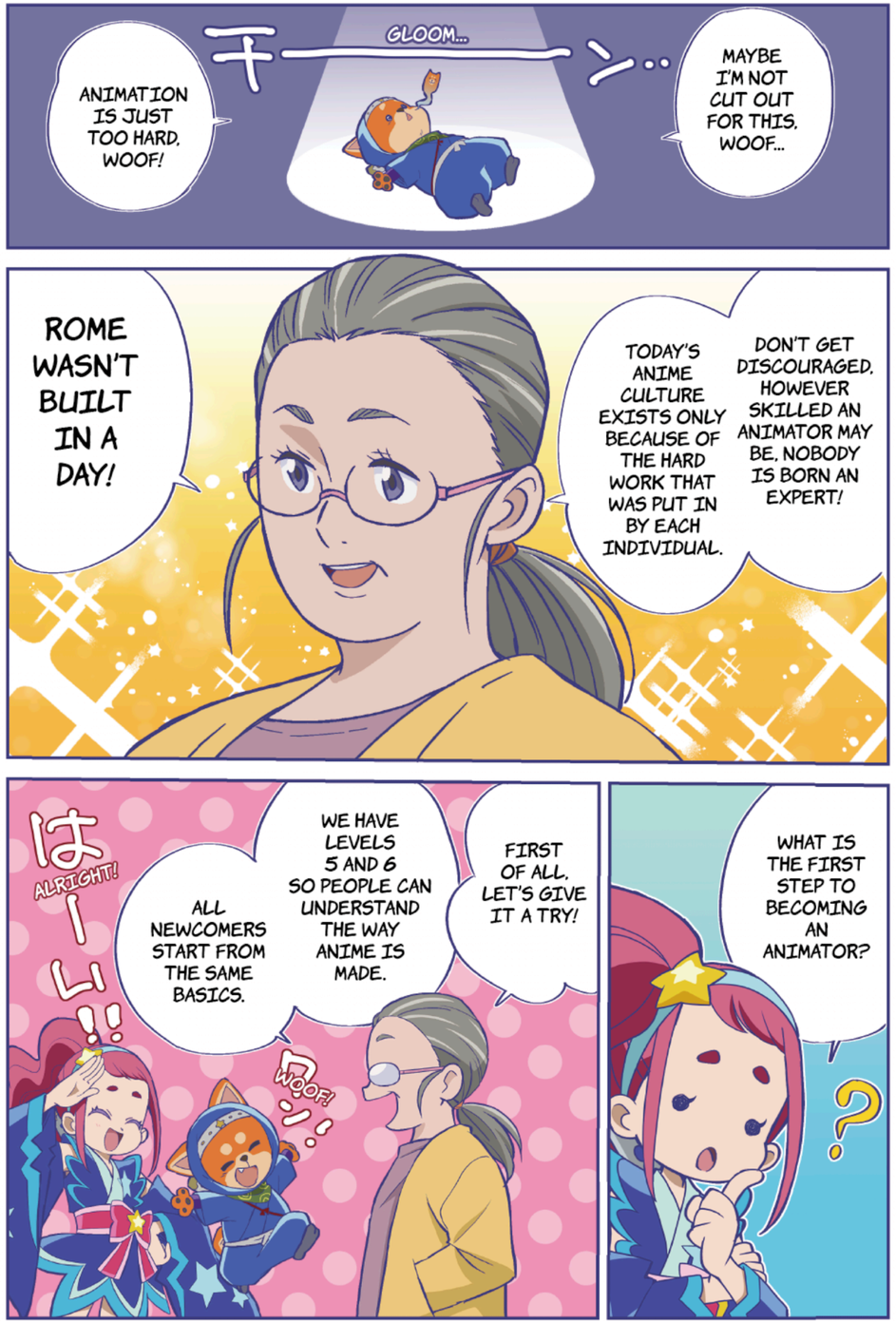
Level 6

PART. 1
About materials

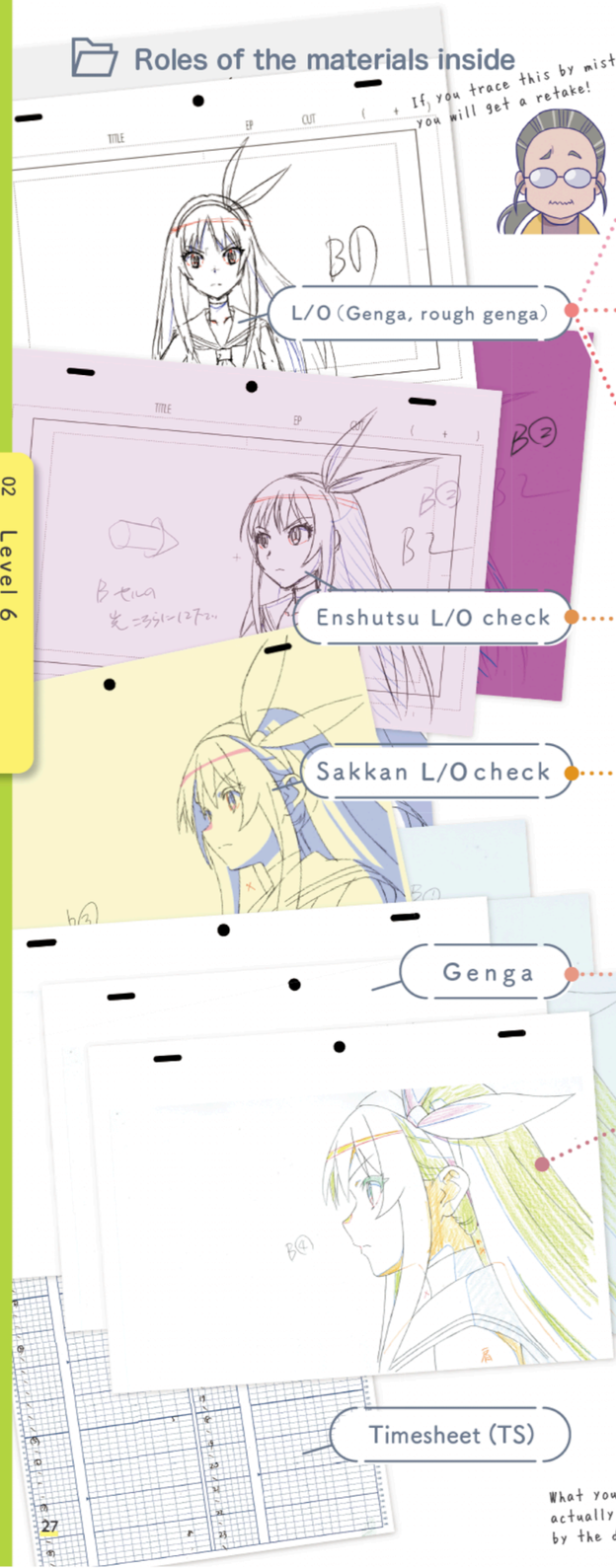
PART. 2
About tracing

Looking ahead towards Level 4!
About tap-wari





Roles of the materials inside



Layout

Layout (L/O)

A layout is drawn by the genga staff after having sakuga meetings (saku-uchi) with the enshutsu staff, and based on the e-konte. The genzu and the rough-gen/ichi-gen are all covered by the overall term "layout" ("L/O"). It can also be used sometimes to simply mean the general composition of the frame.

Genzu

A haikei-genzu (background composition) is drawn and handed over to the bijutsu (background art) department. They then work on the backgrounds while the douga work proceeds at the same time.

Rough-gen / Ichi-gen (first genga)

The pictures that serve as key positions of an action are drawn together with the haikei-genzu by the genga staff. The timing of the movements, the dialogue, camerawork and such are all written in the timesheet.

Enshutsu layout (L/O) check

A completed layout received from the genga staff is checked by the enshutsu staff. Using a shuusei-youshi (correction sheet), instructions and corrections regarding the sequences are made for each of the sections.

Sakuga-kantoku layout (L/O) check

After receiving the instructions from the enshutsu, the layout and genzu are corrected by the sakuga-kantoku. The characters sometimes have to be re-drawn to look more accurate so this is a very difficult step. Depending on the cut, the sou-sakuga-kantoku (sou-sakkan/general animation director) may also do some checks.

Genga/ni-gen(second genga)

The genga staff receives the layout back with the sakkan' s corrections and cleans up the rough-genga.This is also known as "ni-gen."

Enshutsu genga check

The enshutsu will then check one more time for any mistakes or if there is anything missing in the genga.

Sakuga-kantoku genga check

The final check of the genga is performed by the sakuga-kantoku. Some last small adjustments to the looks of the characters may be made here.

Only once all these steps are done, it's finally time for the douga process to begin.

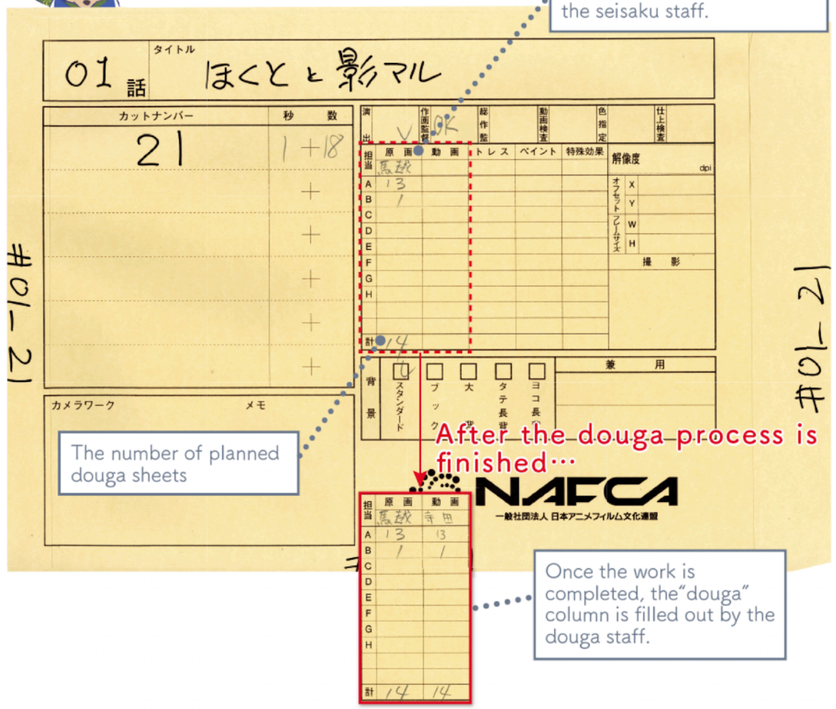
Let's start from the standard for all of the douga process!

Level 6

PART. 1 About materials

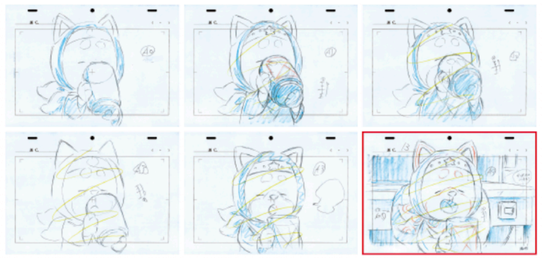
Let's check the contents of a cut-bukuro

How to read a cut-bukuro



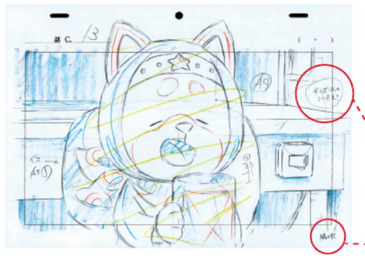
This large envelope contains the materials needed for animation production. The planned number of sheets for the douga process is clearly marked on the envelope, for example, in this case it is "13 A cels, 1 B cel…"
Even if the number of sheets written on the envelope appears low, there may be scenes with crowds, or very complex drawings with lots of lines, so it still may take time to complete the drawings. In those cases, it's best to discuss the schedule with the seisaku staff.
The materials that end up not being used are put in a folded piece of paper or stapled together, so as not to confuse the douga staff about which materials to use, as there are many similar ones.

Layout (L/O)



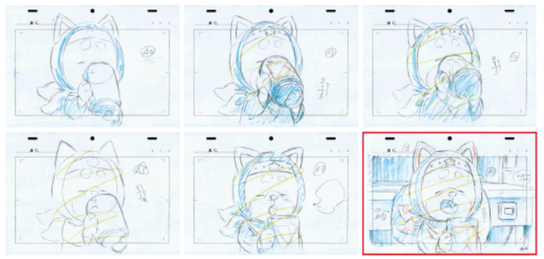
Originally, "layout" was a term which only referred to the red highlighted image on the left (screen composition). Broad roughs were passed on to the director and animation director for checks with no timesheet attached. However, due to the tightening of schedules, the voice recording stage was shifted to take place earlier and this resulted in a need to render the motion of these roughs in a more detailed way.
Therefore, what we call a "layout" today includes both the materials to establish a screen composition, as well as drawings incorporating motion. However, it sometimes is used to refer simply to the framing.

Initial Composition/Genzu



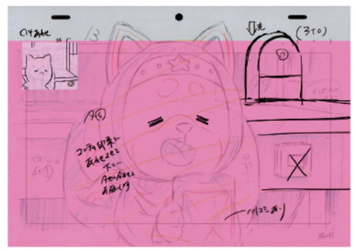
A composition of the background. The background itself is handled by the background artists, so the animators are not involved in that aspect past this stage.
Here is where directions need to be given to the background artists, clearly indicating what is meant to be a cel (for the animators to work with), and what is a part of the background. Elements meant as cels are colored in yellow pencil.
This is also where you can ask questions, if you have any, to the director in the form of annotations (In the example here, there is a note that reads, "should this be a cardboard partition?").
Also, labels may be added to make things easier to understand for other staff members. (In this example, you can see "the neighboring desk" is clearly labeled so.)

Rough genga / Ichi-gen



These are rough drawings outlining key movements, which then are passed on to the director for a check.
The image on the left with the red border around it includes the total composition, but the term "rough key frame" is concerned specifically with the cel elements which are colored in yellow. In this example, we are using the same image as in the explanation for the term "layout" above, but the scope of the terminology is different. "Layout" is all-inclusive, incorporating the initial composition. The term "rough key frame" is limited to the cel elements (the parts handled by the animators) within it.

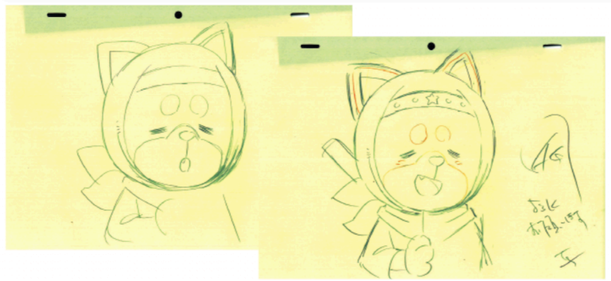
Director / Enshutsu Layout (L/O) Check



This refers to the various instructions given by the director regarding the layout to each of the staff involved in the different sections.
Paper of another color is used for these types of corrections. It is different from the regular layout paper, and is specifically called a "director's correction paper."

This is difficult to follow, isn't it? The meaning of the terminology changes through the years, so it's best to make sure by asking your superiors in the workplace!

Animation Director / Sakkan Layout(L/O) Check



The animation director makes corrections based on the instructions of the director. Typically, this involves making sure the characters look on-model, but in some cases, it can extend to correcting the entirety of the composition, such as the initial composition and the rough key frames. The correction paper used is of a different color to the director's paper.

Genga (Key frames) / 2nd Genga (secondary key frames)

These keyframes are the cleaned up versions of the primary key frames, based on the animation director's layout check.
A very high-level skill set is required at this stage in order to refine the key frames according to the movements, while incorporating the corrections directed by the animation director.
Even if those corrections are only annotated in part of the primary key frame materials, the secondary key frame animator's job is to make sure those corrections are applied to every key frame.
In this case, the animation director has added detailed corrections such as the pattern on the katana and subtle expressions. All of this has to be incorporated into all six drawings.
It's necessary to have the expertise to create a fluidity of motion between the drawings while keeping all of their parts and their form consistent between each other. It is very difficult to achieve this without having experience working on inbetweens.
Ideally, the animator in charge of the primary key frames would handle this stage also.

If you compare them to the rough key frames from before the animation director layout (L/O) check, you can tell how refined the key frames have become, right?

Enshutsu Genga check

The director checks whether there are any mistakes or omissions in the key frames.

Sakuga kantoku Genga check

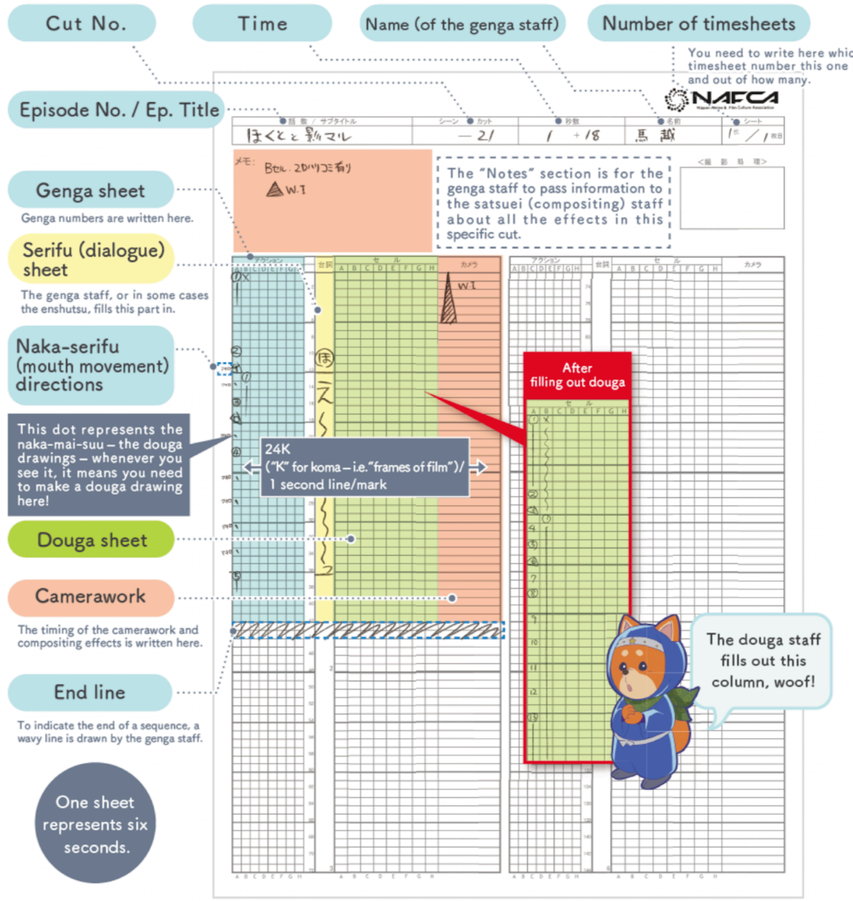
The animation director checks whether there are any mistakes or omissions in the key frames, and adds any necessary small adjustments.

To the inbetween staff!

The Animator Skill Test is designed so that if you pass all the "Trace & Tap-wari", "Dessin-wari", and "Materials combination" tests, you will be considered to have reached the level of expertise for secondary key frames. Keep doing your best until the very end!

Animators are amazing, woof!

What is a timesheet?



Filled out by the genga staff

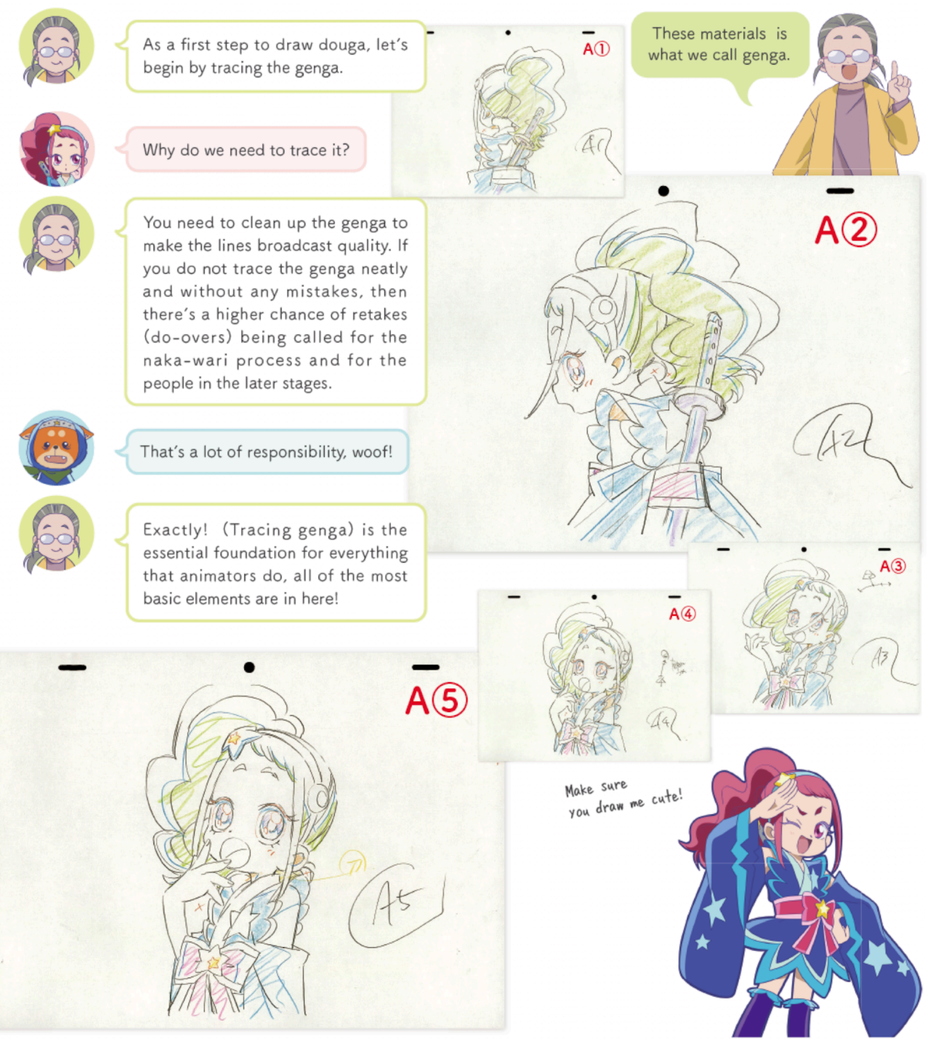
Filled out by the douga staff

A timesheet is a form designed to convey instructions to the various sections of the animation production process regarding the length and timing of the cut, as well as the camerawork and compositing effects. Every aspect of the content of the cut is specified within it.

By the time it reaches the douga staff, each section has already completed their checks, so the douga staff cannot make any changes. The number of drawings in the naka-wari is also set.

However, if you think the materials are insufficient or inadequate, or you don't understand something, it's possible that the instructions were not specific enough or that something is missing, so don't hesitate to speak to the seisaku staff.

Let's try to draw some douga!



Genga are drawings that depict key points in an action or a movement. In the images above, drawings A1 through A5 are genga. Douga is the process of drawing the movement in between these key points. In Japanese, the process of drawing these in-betweens is called "naka-wari."

It would be ideal for every drawing to be handled by one person, but since anime often has many drawings, it's best to think of this as one process that is split between the genga staff and the douga staff.

No matter how well the genga staff does the drawings, what is shown on the screen are actually the douga staff's drawings. Therefore, one must be careful not to lose the essence of the original genga when tracing.

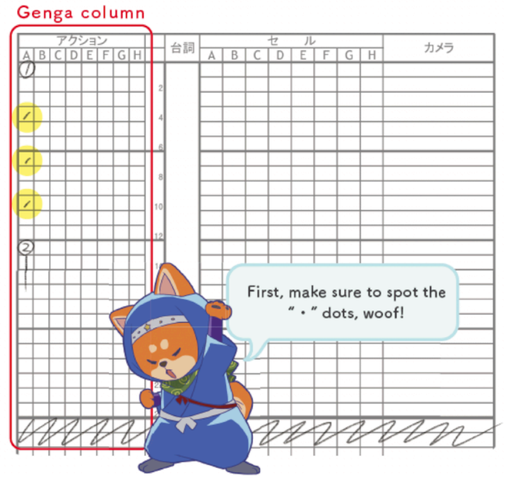
Reading and Writing the Timesheet

In order not to cause any confusion for the satsuei staff when compositing materials, douga staff is tasked with compiling the timesheet.
There are several rules to this so make sure you learn them well.

Example 1

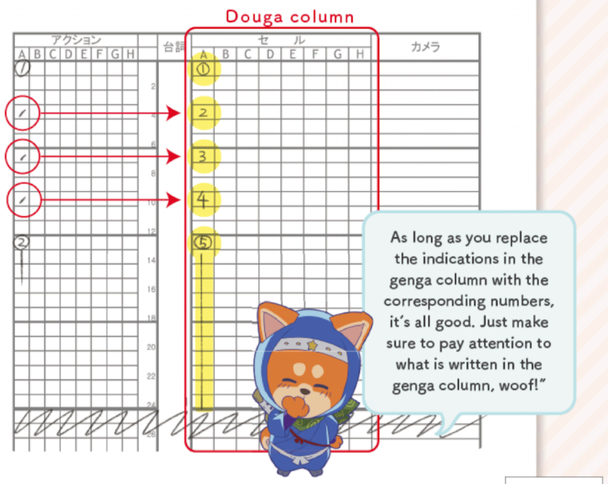
1 Check the genga column

The genga column (labelled as "アクション"["action"]) is where the timing and number of drawings is annotated by the genga staff. Each dot "・" represents where the douga drawings are going to be placed.The instructions on this sheet read as "Place three douga drawings, for 3k (koma/frames) each, in between genga A① and A②."



2 Write the numbers into the douga column

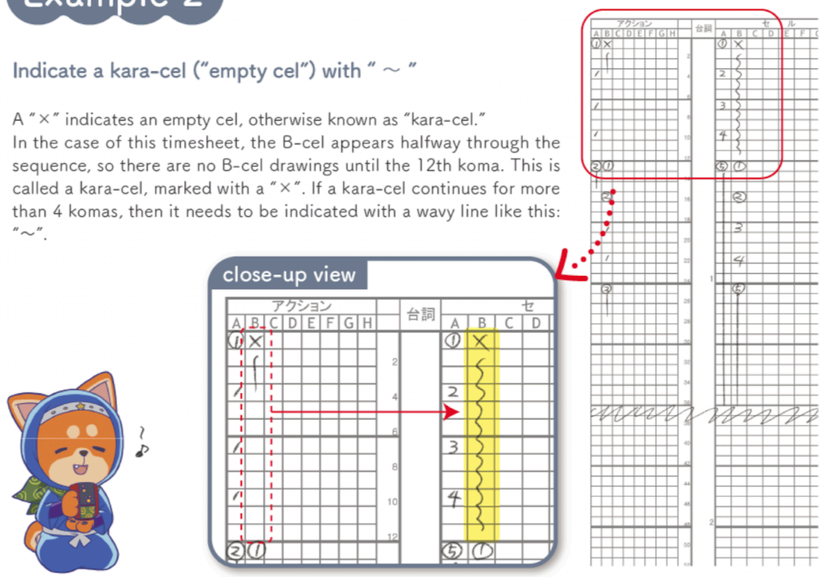
The douga staff takes the dots ("・") that the genga staff marked, and converts them into sequential numbers that are written in the douga column (labelled as "セル"["cel"]). The douga number that is traced from genga (known as " genga trace") is circled, while the numbers of the douga drawings that make up the naka-wari are left uncircled. For cels that are continuously held for more than four frames/koma, you must draw a straight line with a ruler for the amount of koma/frames it continues.



Example 2

Indicate a kara-cel ("empty cel") with " ～ "

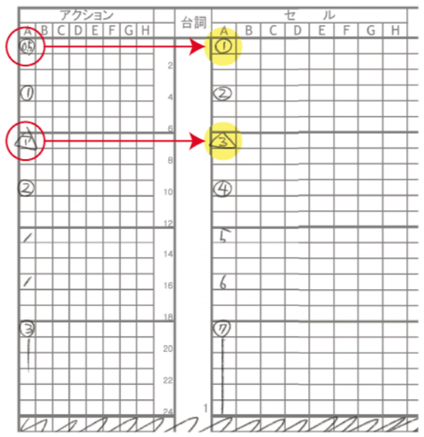
A "×" indicates an empty cel, otherwise known as "kara-cel."
In the case of this timesheet, the B-cel appears halfway through the sequence, so there are no B-cel drawings until the 12th koma. This is called a kara-cel, marked with a "×". If a kara-cel continues for more than 4 komas, then it needs to be indicated with a wavy line like this: "～".



Example 3

The numbers in the "Action" column must all be converted to integers

Even if there are genga numbers or characters such as 0.5, or 1.5, ⓐ, ⓐ, they need to be replaced with whole numbers (integers) when transferring them over to the Cel column. In the Action column, the digits encircled with "O" represent genga, and the triangles "△" are reference drawings for the douga staff.



Points to be careful of:

If a genga is marked with a triangle "△", then you must also place a triangle "△" around the douga number. This triangle "△" indicates a reference drawing for the naka-wari process to be done by the douga staff and is drawn by the genga staff. You should not trace it directly, instead you must adjust it according to the drawings that appear before and after in the sequence. Essentially, the triangle conveys this message: "This drawing here is simply to have a reference for the movement; please do not just trace it as is."

(Hard to understand cel work is a no-go!)

Generally, cels are layered in order of camera (screen) distance - from farthest to closest - starting from the A-cel, then the B-cel, etc. They mustn't be layered randomly without logic. There are rules for cel work.

Why is it not OK to layer them randomly? As long as it moves, it's all good, woof!

No, no, no. The compositing effects vary depending on whether the cels are in front or at the back, and also when the douga or shiage staff have to do retakes, it's hard for everyone to get a grasp of all the materials if they are not properly stacked in order from the back.

I see··· So because it takes a lot of people to make it, the basis of anime is order and organization of materials, right?

The douga staff typically does not change the timesheet. The genga staff decides on the cel work. A skilled genga staff member can make a simple and easy-to-read timesheet, which one can just take a glance at and quickly grasp what the composition of the screen is going to look like. After you become an animator you should buy reference materials like commercial copies of genga collection books and study cel work from the timesheets done by those talented artists.

Cel-kasane Quiz! What's the correct answer?

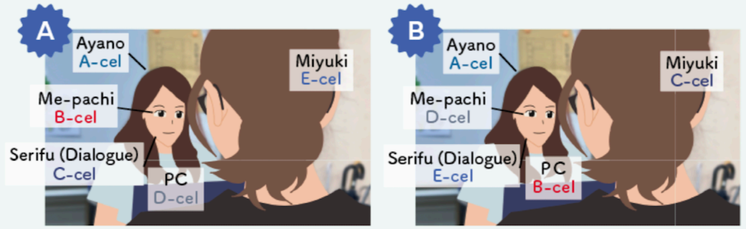
Q1 Brother and sister are playing at the park

The older brother is talking to his younger sister. The sister is listening.

(Answer B)
Even if the drawings do not overlap, the general rule is that objects must be layered in order from the back, starting from the one furthest away from the camera.

Q2 At work

Ayano and Miyuki are working. Ayano has me-pachi (blinking) and kuchi-paku (lip movement for dialogue) animation.



(Answer A)
Place the cels in order starting from the one furthest away from the camera. Because the PC may have some satsuei-shori (composite effects) applied to it, or have its placement adjusted, it's best to have it as its own separate cel.

(About Cel-kasane)

What is a cel?

You know how a background often looks like a watercolor painting, and the characters are painted in flat, solid colors? All the objects apart from the background are called "cels."

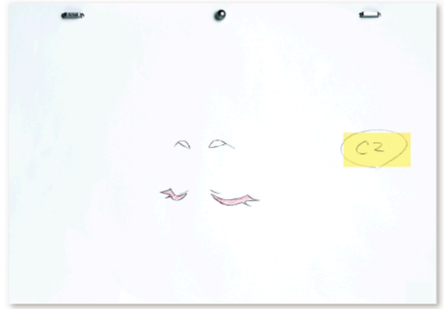
Are "cels" coloured in a different manner?

The background is colored by background artists, and the cels are colored by the shiage staff. Because anime has a lot of motion, it would take too much time to color each drawing like a watercolor painting, so we employ the "cel-painting" style to cels.

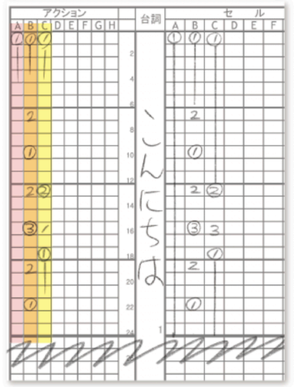
I see! So you don't call background elements "cels," woof!

Since anime uses many drawings, and we don't want to have to make the shiage staff paint the same drawings over and over, we reuse some drawings that don't need to move. For example, for this cut, the body doesn't move, only the eyes and mouth do, so we split up the drawings and make only certain portions move. Let's take a look and compare it to the timesheet.

You're right! It's easy to understand if we look at the timesheet!



timesheet



COLUMN
Which materials should be CG, and which should be backgrounds or cels is usually decided in discussions between the kantoku, enshutsu, and those in charge of each of the different sections. The douga section generally only deals with cels.

Ura-nuri and Nuki-shiji

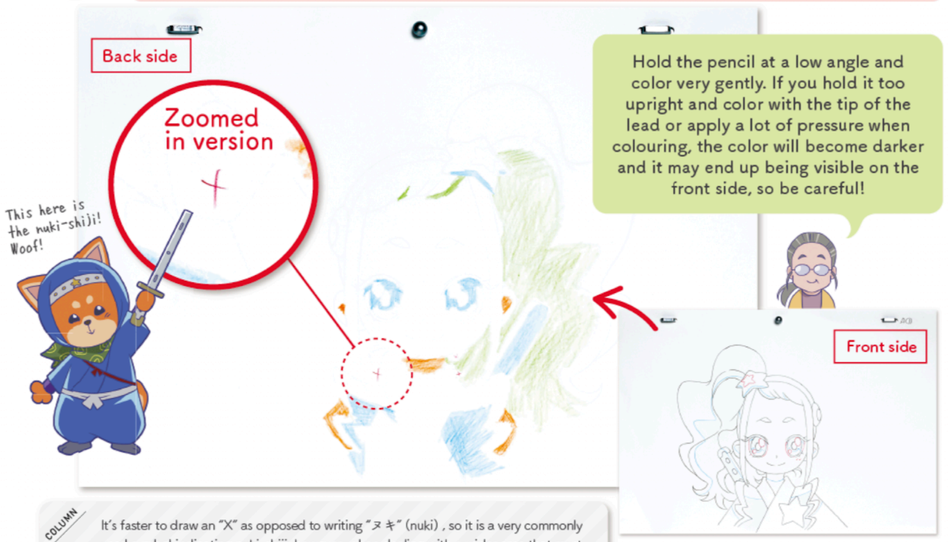
Ura-nuri ("rear coloring") refers to the coloring process using colored pencils on the back of the douga paper to indicate the separation of differently-colored parts, like shaded areas etc.
By doing this, you can make the job of the shiage staff go a lot smoother.
You should always be considerate of the next person in line within the workflow and not forget the instructions for them, so make sure that you clearly separate the coloring.

What is this little X here? Woof?

That is called a "nuki-shiji," it instructs you to not color this specific area.

I see! Woof!

Wow, there is a lot of effort put in to make sure the next person in line clearly understands what they have to do!



Hold the pencil at a low angle and color very gently. If you hold it too upright and color with the tip of the lead or apply a lot of pressure when colouring, the color will become darker and it may end up being visible on the front side, so be careful!

COLUMN

It's faster to draw an "X" as opposed to writing "ヌキ" (nuki) , so it is a very commonly used symbol indicating nuki-shiji, however, when dealing with a wider area that must remain uncolored, some people clearly write out "ヌキ."

About camera frame

In the layout sheet, there is a rectangular camera frame that is meant to indicate that, "the area inside this frame is what will be seen on the screen." So, you might think that one only needs to draw up to the line of this frame, but in fact, unlike with manga frames, in anime you have to draw right up till the edge of the paper. This is to avoid what is known as "cel-bare," (exposing the incomplete edge of the cel drawing and revealing the background behind it), and also to accommodate for any retakes that may be called later on.

What are sakuga chuui jikou, kyara-hyou, and iro-mihon?

Right then! Before we start working, first we need to read up on the sakuga chuui jikou (literally, "precautions concerning the animation process," often abbreviated to "saku-chuu").

Hmm··· Is it like a secret text, or a code?

No no, it's simply a set of points to be aware of during the animation process. Every anime show has its own sakuga chuui jikou.

Huh? You mean it varies from show to show?

Depending on the show, there may be rules regarding the thickness of the lines, and there may even be reference samples for traced lines. Also, many other detailed instructions are written there, such as whether the eyebrows should remain visible through the hair or not, should the highlights in the eyes be drawn with a regular black line or color traced, etc.

The douga staff is required to have a set of specific and detailed skills. They have to do not only naka-wari, but also be able to adjust the way they draw lines depending on the show they work on.

By the way, the saku-chuu are prepared jointly after discussions between the douga-kantoku (douga director) and the main staff.

Kyarakutaa settei-hyou (Kyara-hyou) / Iro-mihon

Kyara settei

Iro-mihon

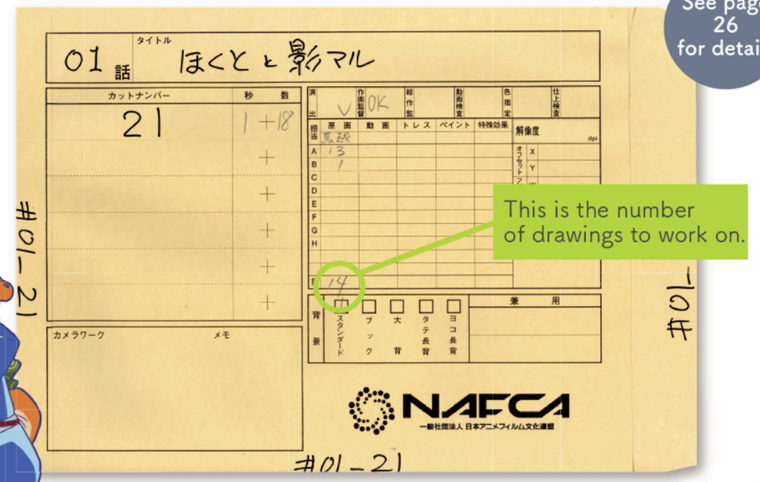
There are mainly three materials that are required for the douga process: the sakuga chuui jikou, a kyara-hyou (a charactor sheet), and an iro-mihon (a color sample). If you have trouble doing naka-wari, then you should ask for a copy of the e-konte as well.

You can download the settei shiryou (model sheets) for the Animator Skill Test here!

Basic process of douga work

Step 1 Check the cut-bukuro for the planned number of drawings to work on

See page 26 for details

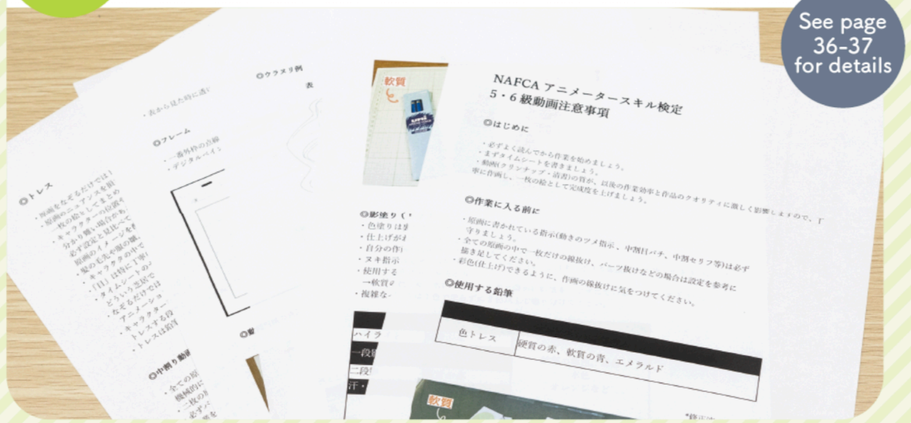


Step 2 Check all the materials

See page 26-27 for details

Step 3 Check the settei (model sheets) and sakuga chuui jikou (animation precautions)

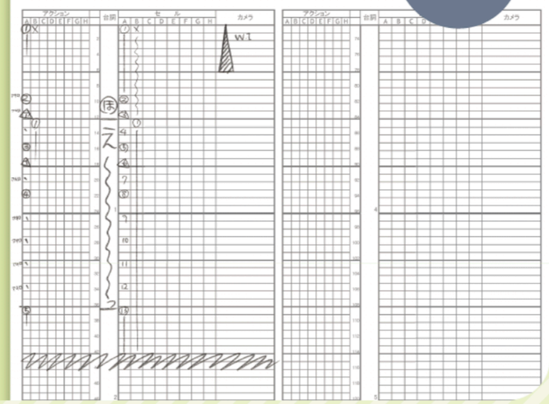
See page 36-37 for details



Step 4 Fill out the timesheet

See page 32-33 for details

Look through the Action column and, while checking the genga, write down the numbers corresponding to each douga in the Cel column.

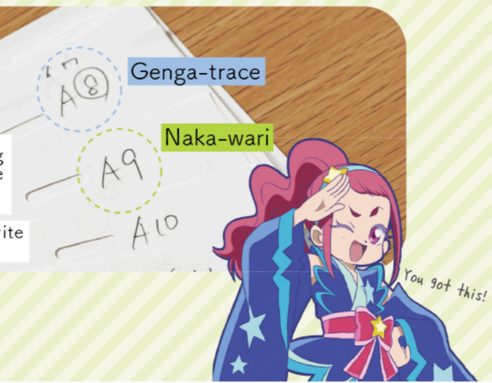


Points to remember

Write the designated number in the top right corner of each douga drawing (next to the tap).

If a douga drawing was traced from a genga drawing (this is called "genga-trace"), you need to circle the douga number.

For each naka-wari drawing of the douga, simply write the number without circling it.



PART. 2 About tracing

What should we be careful about when tracing?

First of all, you must make sure that all the lines are properly connected. If they are broken, then the shiage staff cannot color in those areas. If you can do that while also picking up the nuances of the drawing, that would be best.

"Nu-u-uance?"…? What's that? Woof?

It's rather difficult to explain what "nuance" is… But basically, it's about "understanding the shape" of what you're depicting: you should adjust or add details that are not present or drawn roughly in the genga, as well as refine the lines so that hard objects come across as hard, soft objects come across as soft, and differentiate things that should be close to the camera through the linework.

So it's like a new ninja strategy, woof?

Uhh… Do you think we can do all that..?

You don't need to understand all that right now. I think you'll master it eventually after a few years of working on douga. In the advanced level of our tap inbetweens test, there is a section called "Tracing with nuance. " If you want to become a douga pro, you should aim for the advanced level.

It's a long road ahead, but I want to be able to do it!

Pata-pata

"Pata-pata" is a word used for the process of rapidly flipping the pages back and forth while having them attached to the tap to compare and check if there are any omissions in the douga you traced compared to the original genga. By comparing them as you flip them quickly, lines you may have forgotten to draw (called "paka") or inaccurately produced lines will stand out by having a choppy motion to them seen through flipping. You should fix those errors as you spot them.
If the tracing is not up to par, then the naka-wari as a whole will be ruined as well, so make sure to pick up the nuance of the genga and aim for the linework that maintains that same high standard.
For animators, checking the drawings with the pata-pata method remains a very important step, even now in this era of digital tools. Those who tend to leave out many details are not performing enough pata-pata checks. Even if you have to do it over and over, make sure that you check your work diligently.

Te-para/Yubi-para

Arrange the genga trace and the douga drawn as naka-wari together in order on top of one another, and then place your fingers in between the sheets of paper to flip the sequence through (a so-called "para-para" motion), to check if the movement of the drawings flows naturally. This action is known as "te-para." Using this method, you can check not just one but several pieces of paper at once, which means you can check the motion as well as spot mistakes such as paka at the same time.

Para-para

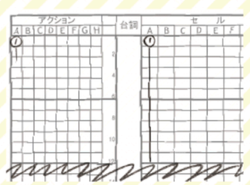
You can check a lot of drawings at once with this method. Remove them from the tap, hold the pieces of paper at the area around the tap holes, and flip through them in order from the bottom edge. It's like a professional version of a cartoon flip-book (called "para-para manga" in Japanese)!

The Tracing Process

Make sure you go through the basic steps 1 through 4 (p.38-39) first.
This drawing on the right is the one we will trace this time.

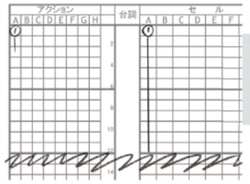
Here is the settei sheet (model sheet)!

Please download it from the QR code!

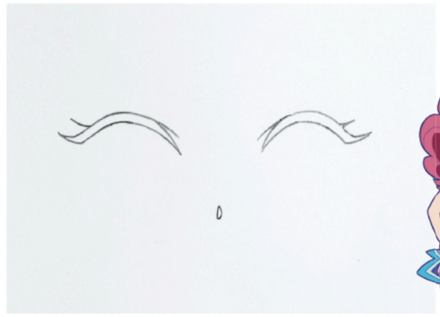


1

Fill in the Cel column of the timesheet, and on the douga paper write the corresponding douga number in the top right corner.



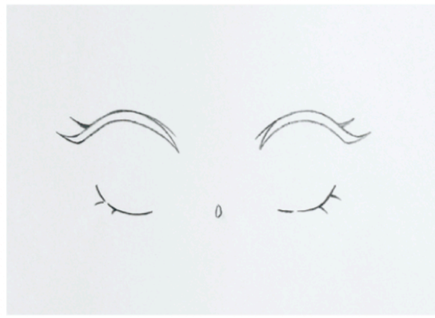
Switch on your lightbox and place the douga-youshi (the designated paper for drawing douga onto) on top of the genga. Start tracing from the eyelids while checking your progress using the pata-pata method all the time. In order to maintain balance between the left and right sides, use the nose as a key point and trace the eyelids while alternating from one to the other. In order to keep erasing to a minimum, begin with the difficult parts that would typically require do-overs.



So I should start tracing from the eyelids!

2

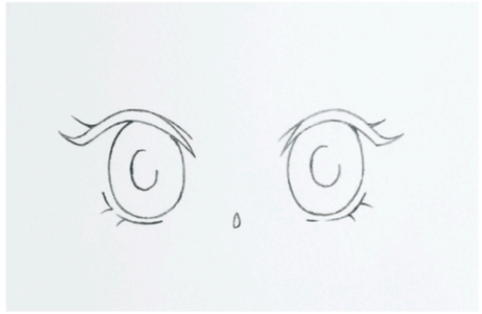
In the same way, trace the lower eyelashes. The lines drawn in colored pencil should be done last.



042001

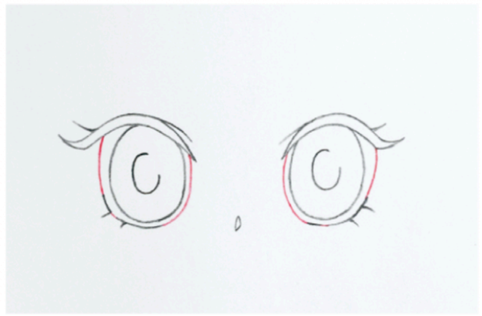
3

Draw the pupils. Make sure that you refine the balance between left and right while also not straying away from the original genga lines.
When tracing, it may sometimes be difficult to see your own drawing. To see it more clearly, try turning the lightbox off and on, or doing pata-pata checks.



4

Draw the outline of the whites of the eye with a colored pencil. As in step 3, make sure to refine the lines.



Advanced level tip

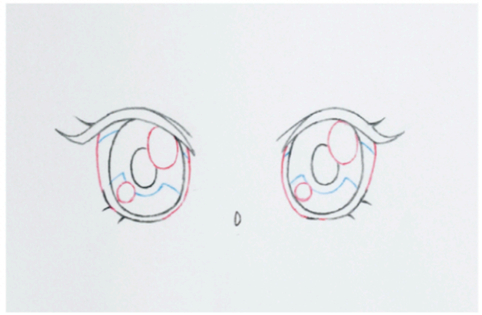
If you look closely, you can see that the colored pencil lines around the whites of the eyes slightly differ between left and right, while not straying away from the genga. The eyelashes have some fine adjustments applied to them as well. This way, if you can manage to pick up the most appropriate lines from within the breadth of the genga like this, you will be at the top of your game! This is another example of "tracing with nuance."

5

Similarly, draw the highlights and shadow lines with a colored pencil. Again, observe the balance between left and right and refine the lines, making sure they do not fall outside of the genga lines.

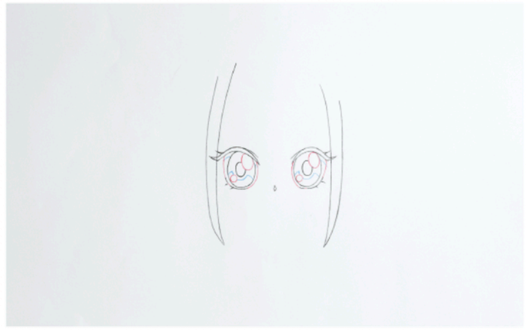
Warning!

Changing the genga and doing your own drawing instead is absolutely not allowed in douga work.



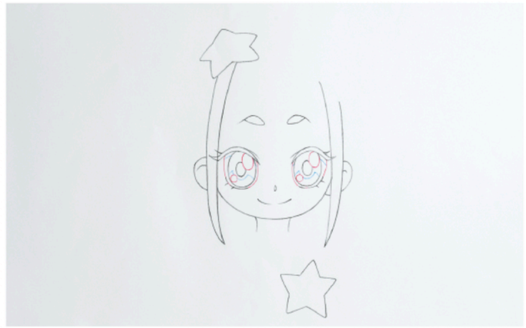
6

Start by drawing the longer lines first; otherwise, the more lines there are that cross over each other, the harder it will be to erase any mistakes you may make.
The more you erase, the more you will damage the paper, and it may even lead to cases where it is better to start over on a new piece of paper. This is why it is important to start drawing from those parts that you have the most difficulty with.



7

Trace the contours of the face and the mouth. The genga staff often breaks the line of the mouth in order to give off a certain nuance, so in the douga you should make sure that this nuance is carefully maintained as well, without any misalignment on either side.
Once you are done with the facial features, you can move on to tracing the elements that are closest to the screen.



8

Trace the body lines and the sword.

9

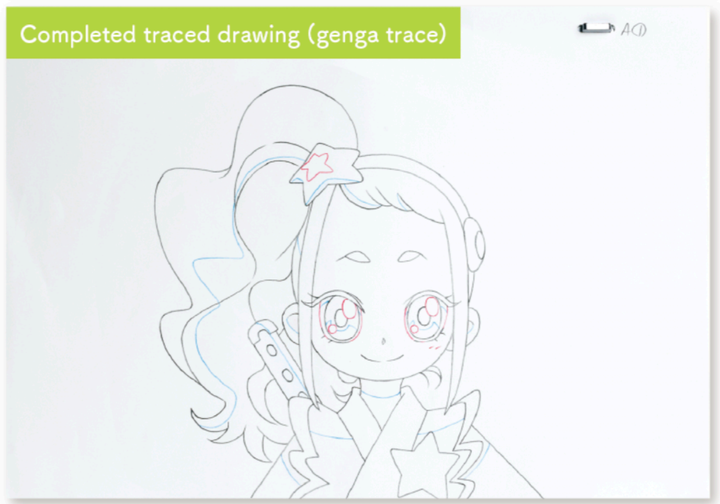
Trace the hair that is furthest at the back, then trace the parts outlined in color pencil as well.
When the linework is completed, check for any missing lines by turning the lightbox off and on repeatedly.
It's best to check the various parts in turn, for example, focusing first only on the eyes, then on the hair, and then the sword, etc.

10

Do the ura-nuri, and then the process is completed.
Separating different parts of the drawing with color is a considerate step that helps the shiage staff to understand the image.

Genga

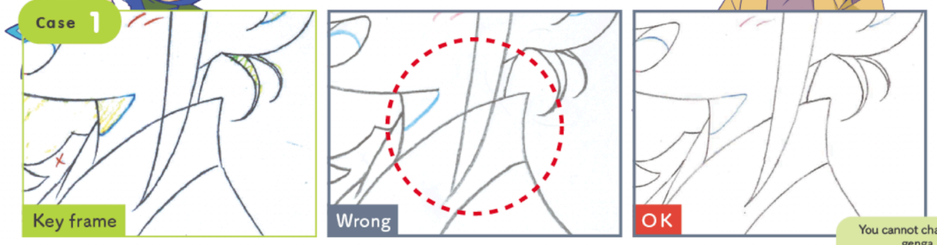
Completed traced drawing (genga trace)



Points to pay attention to

Here's a summary of common mistakes! Take care not to fall into these traps!

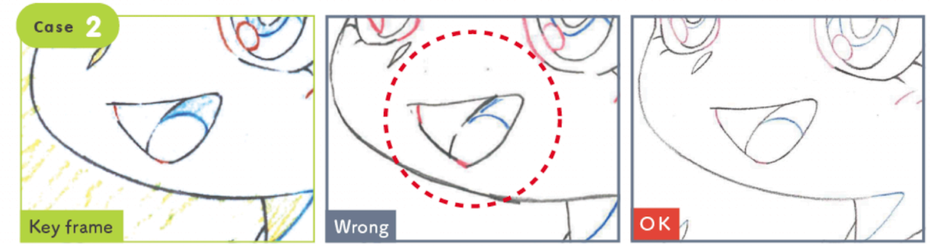
Case 1



The line of the collar is visible here. Even though that line is drawn in the genga, this is really only meant as a reference for the douga staff to understand the hidden form. When tracing, you should prioritize whatever is actually in front.
You should not trace lines that are not meant to be seen on-screen. One of the important parts of the job of the douga staff is to expertly pick the lines from the genga, and trace them while keeping the essence of the genga. When unsure, it's best to refer to the settei (model sheets) and judge based on that.
* In some cases, the reference lines for parts which are hidden from the view are faintly drawn on the back side with a colored pencil.

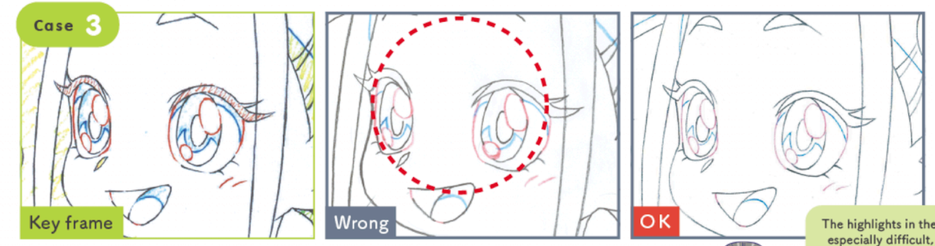
You cannot change the genga, but you also mustn't simply trace it as is. Make sure you understand the underlying point of the clean-up process.

Case 2



It might be difficult to tell what is wrong when the drawings are placed next to each other like this, but compared to the genga, the shape of the tongue and the edges of the mouth are different. The color-traced line indicating the shaded area of the tongue is too thick. The expression of the character is particularly liable to change depending on small differences in the details of the facial area. Make sure you keep flipping back and forth to check on whether you pick the lines well.

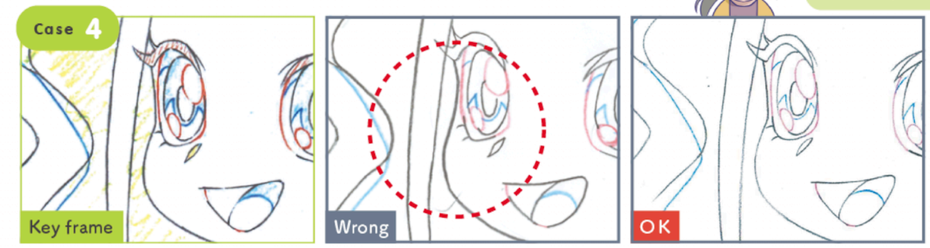
Case 3



Take great care with the highlights in the eyes, as well as the details inside the pupils, which should be drawn smoothly, not roughly. The eyes of a character are of utmost importance.
Keep flipping back and forth to check while tracing with extreme diligence.

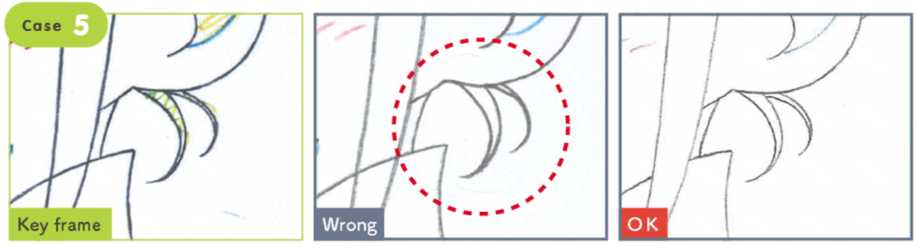
The highlights in the eyes are especially difficult, so keep trying hard to improve. The only way to get better is to repeat the process over and over, and spend hours and hours practicing.

Case 4



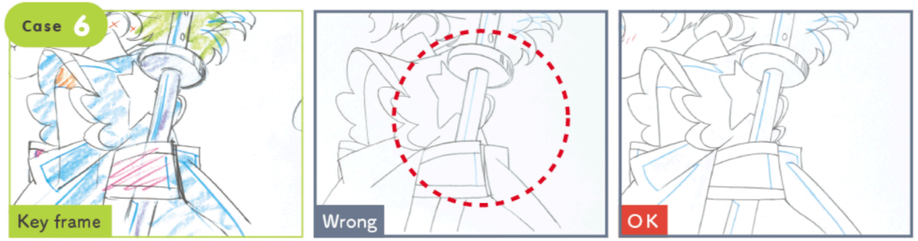
The outline has been drawn very wobbly. When tracing, pay special attention to the nuances and sharpness within the genga that make the character convincingly appear to be a solid object. Mind where the start and end points of each line are, and the way they curve and get thicker. In this case, it is best if you can express the child-like softness of this character through the lines.

Case 5



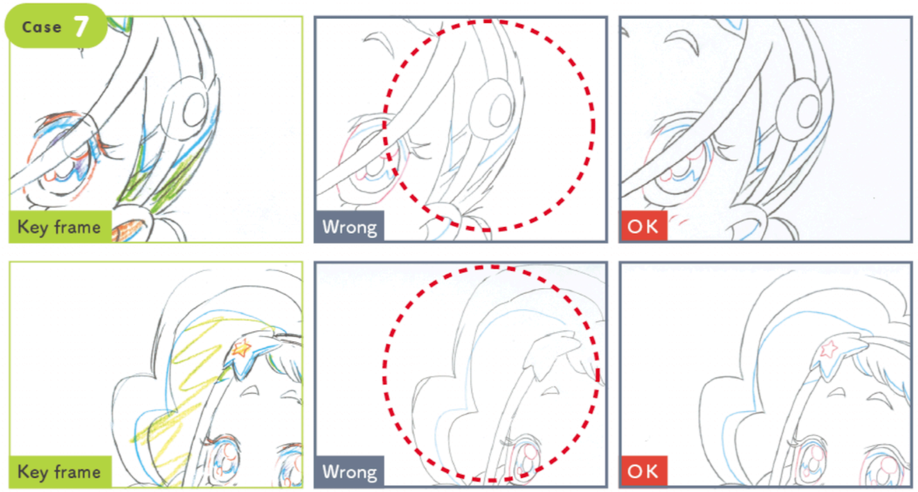
Some of the sharpness has been lost. It's often the case that with just a difference of one line, the whole thing can seem dull.
You must take care not to simply trace over the genga lines, but rather be very mindful to pick and actively refine the lines, keeping their essence as in the genga.
With hair, we often see mistakes where the ends of the strands are drawn shorter, so make sure that you trace right to the very tips.

Case 6



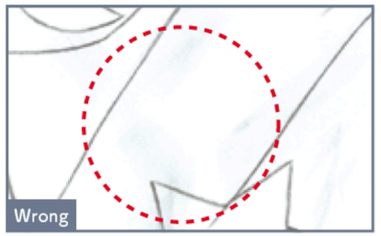
In the genga, the lines of the hilt and sash of the sword are drawn roughly. The job of the douga staff is to clean up these lines. You must reference the settei designs and the genga drawings that come before and after, and then decide which lines in the genga are the lines to clean up.

Case 7

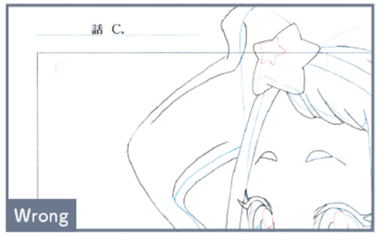


There are some places where the lines in the genga overlap or are not connected; these areas must be fine-tuned to look clean.
If you're unsure, you can check the previous and latter genga to get hints as to how the correct drawing should look.
Be careful not to miss out on details: here, the color traced lines on the bangs and on the star accessory are missing.

Other various things to avoid



If you have dirt, food stains or pencil smudges on paper that may remain visible after scanning, then it's unusable. If some faint lines remain after erasing, then that may also appear in the scan, so be sure to use an erasing plate or an electric eraser in order to not leave any marks.
Try not to make the shiage staff's correction work any harder.



Do not use layout-youshi (paper specifically designed for layouts), because the rectangular frames printed on those sheets will also remain in the scan. Make sure to use only douga-youshi (specific douga paper) when drawing douga, as they do not have frame lines printed on them, and draw up to the edge of the paper.

Points

POINT 1 Which line to choose?

Be sure to trace with a three-dimensional understanding of what you are drawing. Genga staff who work quickly often draw broken lines. It's a good indicator of the douga staff's skill if they manage to refine them without destroying the essence of the lines.
Think about the best way to arrange them by referring back to the kyara-hyou (model sheets) and also the genga that come before and after in the sequence. If you simply trace the genga lines as is, without considering how to properly refine them, you could end up with drawings that don't look or flow well, and appear lifeless. Whether the lines of a wonderful genga live or die all depends on the skill of the douga staff.

POINT 2 Don't just think, "It's all fine as long as I can draw characters!"

Animators should not be under the impression that they just need to be able to draw characters well. They must also have proper knowledge about life-drawing, camera lenses, angle of view, perspective, and such.

POINT 3 About genga "tome"

In the genga column of the timesheet, whenever you see "止メ" ("tome" ["hold"]) written, it means that within this cut, this specific cel has no motion applied to it.
The douga staff do not write out "止メ," instead, if it is held for more than four frames of film, a straight line must be drawn to indicate this (see page 32). They look similar when hand-written, but be particularly careful not to confuse the "メ" with "X" (kara-cel).

POINT 4 What appears on-screen are the douga staff's drawings

Many believe that the term "animator" refers mostly to the character designers or genga artists, while douga is just tracing work that new, inexperienced recruits at the bottom of the ladder have to handle, but in reality, they do actually have to observe many things and draw with a proper understanding of the timesheet and camerawork.
Most importantly, what you see on-screen is what the douga staff actually drew. Strictly speaking, they are actually splitting the workload with the genga staff. Originally, newcomers would learn the basics of the commercial animation production process by working on douga. We hope that through this skill test, you can also gain the important fundamental knowledge of animation.

Challenge with Kagemaru!
3 Choice question!

Q Which one of these is the genzu?

A

B

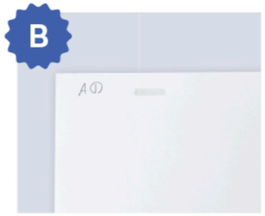
C

Answer C – A is a rough genga, B is the genga.

Q Where should you write the douga number?

A

B



C

Top right | Top left | Bottom right

Answer A – Top right.

Q What does a douga animator use when drawing douga?

A

B

C

A ballpen | A mechanical pencil | A pencil

Answer C – A pencil. It's best to use B or 2B type.

Looking Ahead to Level 4!

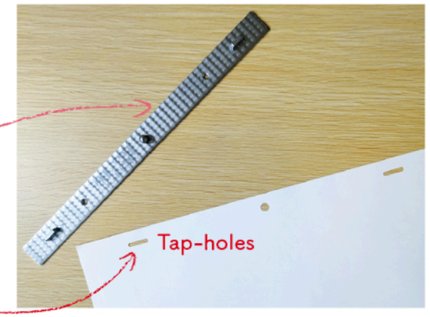
Good-to-Know Basics of "Tap-Wari"

What is tap-wari?

OK, I've finished tracing! And I also did the in-betweens! Woof!

Hmm… They are rather choppy… *laughs* Maybe it's good to try using the tap-wari method in this case.

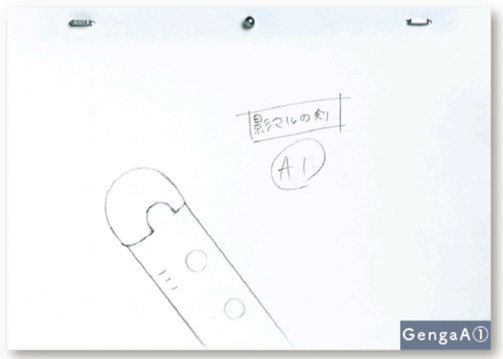
What is tap-wari? Is it this metal thing?



Tap-wari is a technique used to achieve a smoother flow between the douga drawings using the tap holes of the douga-youshi sheets.

Smoother? Tap-holes? I don't get it! Woof!

The tap-wari method allows us to plot a trajectory and quickly perform clean naka-wari. If you're going to be an animator, then this technique is a must!



What is tsume-shiji?

Do I also have to animate this weird-looking centipede? Woof?

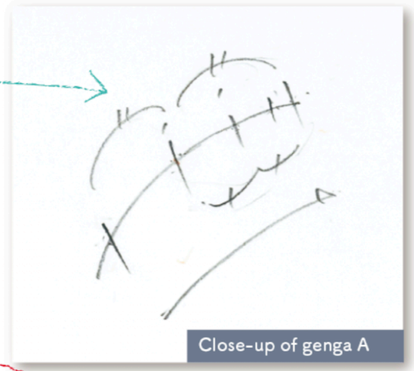
That is called tsume-shiji, and no, you're not supposed to animate it, and you should not trace it, either. It's not a part of the drawing.

I thought it was a part of the picture… woof.

Tsume-shiji is a type of instruction given to the douga staff by the genga staff. When doing genga tracing, you'll often see some annotations near the area where the tap holes are. The tsume-shiji is like a gauge that specifies the spaces between each drawing of the naka-wari. They're basically telling you to "draw the douga closer to this side of the genga motion in terms of timing" when animating.

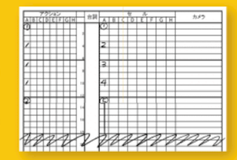
So depending on this instruction, could the movement look different?

Yes, exactly! Depending on the tsume-shiji, the meaning of the character's performance or the action can vary greatly. This time, the tsume-shiji indicates that the speed decreases by making us place the drawings closer together towards the end.
We have prepared a video here that you can watch for a reference, so go ahead and access it through the QR code!



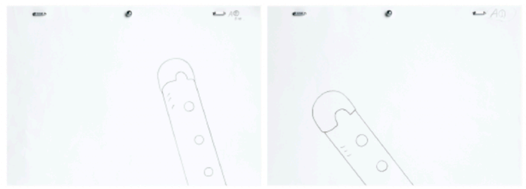
Tap-Wari Step-by-Step

Go through the basic steps 1-4 (as seen on pages 38-39). Here is the genga we will use for this exercise!



1

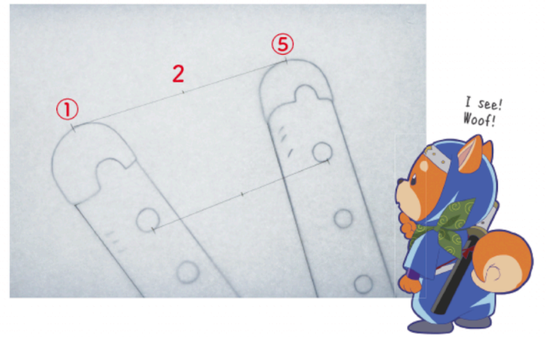
First of all, do the tracing of the A① and A② genga. Be sure to draw till the edge of the paper. If you check the timesheet, you can see that there should be three drawings for the naka-wari in this particular cut, so the genga-trace of A① should be labelled A① as is, but the genga-trace of A② should be renamed as A⑤.



2

Switch on the lightbox and start planning out the rough naka-wari. Because the tsume-shiji has an indication in the middle (in other words, the motion is spread out uniformly, "kintou-wari" in Japanese), we mark a position in the middle. Don't start drawing the image just yet, first we need to draw a straight line between the two gen-tore and calculate the middle position.

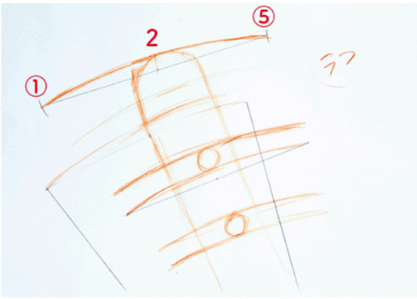
Naka-wari is normally done starting off from the middle position. If we look at the tsume-shiji for this cut, we can see number2 in the center between ① and ⑤, so we have to start from number 2.
If the central douga number between ① and ⑤ had been number 3, then we would have begun from 3. For more details, study up at Level 4!



3

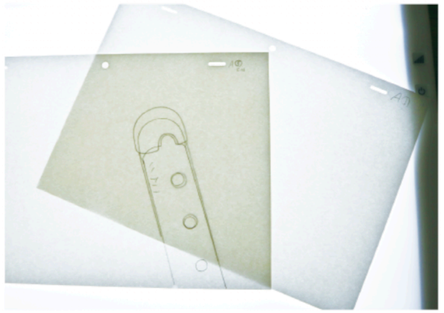
Plot the trajectory of the action according to the position of the central douga number 2 that you sketched in step 2. The path should not be a straight line, but a soft curve. At this stage, we are still working with rough sketches (known as "atari"), so it's not necessary to be perfectly precise, you just need to get the basic impression of the movement.

The line in step 2 was only drawn as a straight line to figure out the central position, it was not an actual path trajectory indicating movement. Try to observe the trajectories of objects in motion by actually moving them in real life!



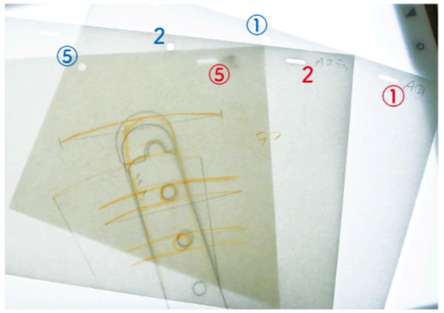
4

From here we can start doing the tap-wari. First, remove all the materials from the metal tap. For this exercise, because drawing circles is difficult, we will use the circles as anchor points and overlay drawings ① and ⑤ so that the circles align as closely as possible.
If you are worried that the top of the sword pommel is not aligning well enough to animate easily, once you're done with the tap-wari, try it again, but this time use the top of the pommel as the anchor point. You can try the tap-wari as many times as you want.



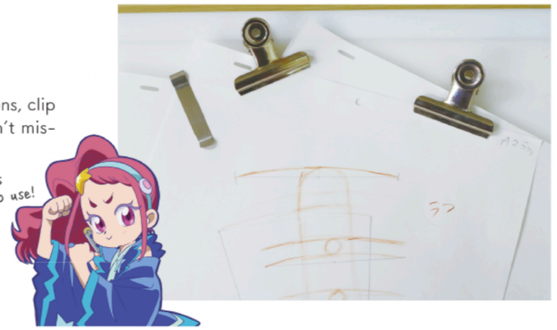
5

Place the rough drawing from step 3 on top of your drawings from step 4. At this point, you should align the tap holes of A① and A⑤ and the corners of the douga-youshi, as illustrated here. Because we are doing kintou-wari (placing inbetweens at an equal distance between the two drawings) this time, the tap holes and corners of the pages are placed at equal distances; the distances may vary depending on what the tsume-shiji specifies.
Lastly, shift the drawing along the path of the trajectory. This time, we will use the trajectory we drew in step 3 as a reference and shift the drawing up a little bit.



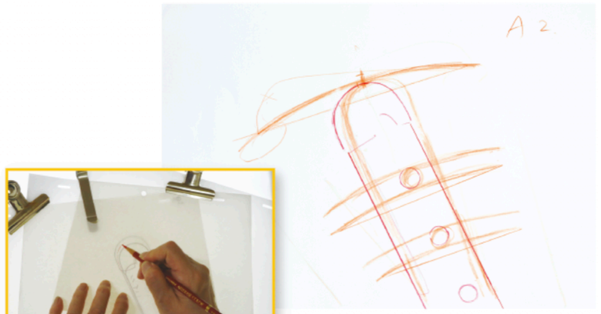
6

Once all the papers are in the correct positions, clip them together tightly, making sure they don't misalign, otherwise you'll have to start again.



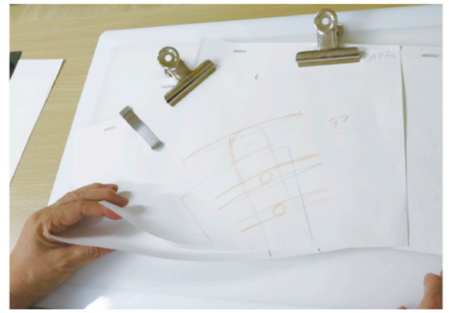
7

Do another rough sketch on top of the atari between A① and A⑤ that you overlaid in step 5 (see the red pencil sketch for reference).
In cases where you see that the genga staff used a ruler, it is fine for you to also use a ruler.



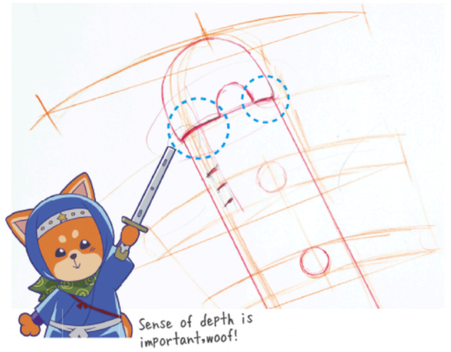
8

Be particularly careful animating when object lines shift perspective from a high angle (fukan) to a low angle (aori). Use the te-para method to check that the animation flows smoothly without any oddities (refer to the "Point" below).



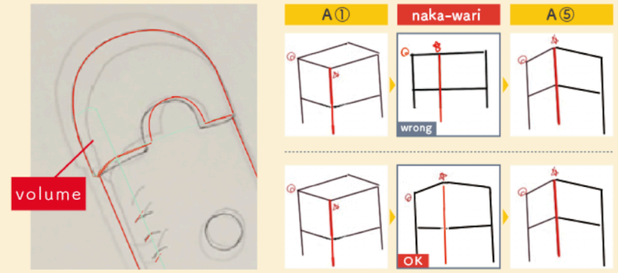
9

Remove the clips and attach the papers to the tap. While doing te-para and turning the lightbox off and on, check for any unnatural movements or lines that you missed and make the necessary adjustments. Make sure to animate the volume/thickness of the pommel and the handle while maintaining a sense of depth. Even a small change in the angle of a single line can misrepresent it or break the picture, so the utmost care must be taken.
With that, the first rough drawing is now complete.



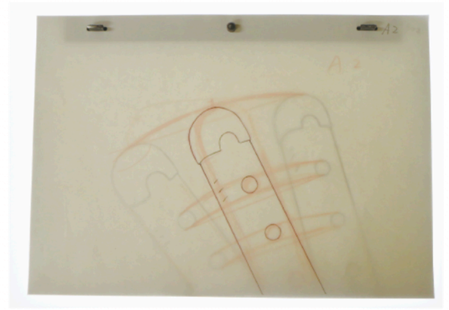
Point

In naka-wari cases where the angle shifts from high to low, make sure that the lines do not look completely straight like in the wrong example on the right. Be careful not to lose the object's sense of volume.



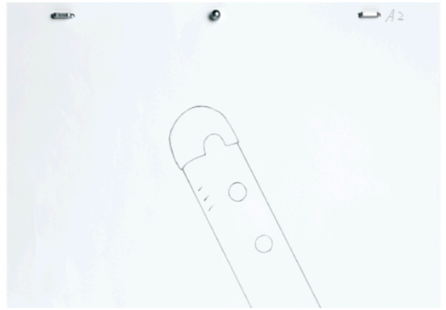
10

Clean up the rough sketch completed in step 9. Place douga A① and A⑤ at the bottom, and continue refining the drawing while checking the movement with the te-para method.



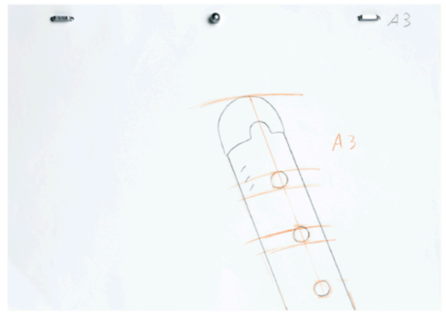
11

A2 is now complete.



12

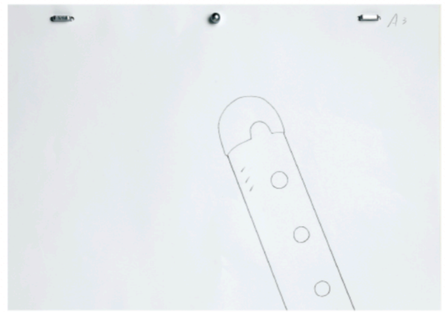
From A3 onwards, we employ the same method. Following the tsume-shiji, we will use tap-wari to locate the middle position in between A2 and A⑤, and thus complete A3; then do tap-wari in between A3 and A ⑤ to get A4.



13

The more naka-wari drawings you do, the closer the positions get to each other, so in some cases it is no longer necessary to use the tap-wari method.

The tap-wari method is generally used when the details are very precise and complicated, or when the positions of the drawings are far apart from each other.

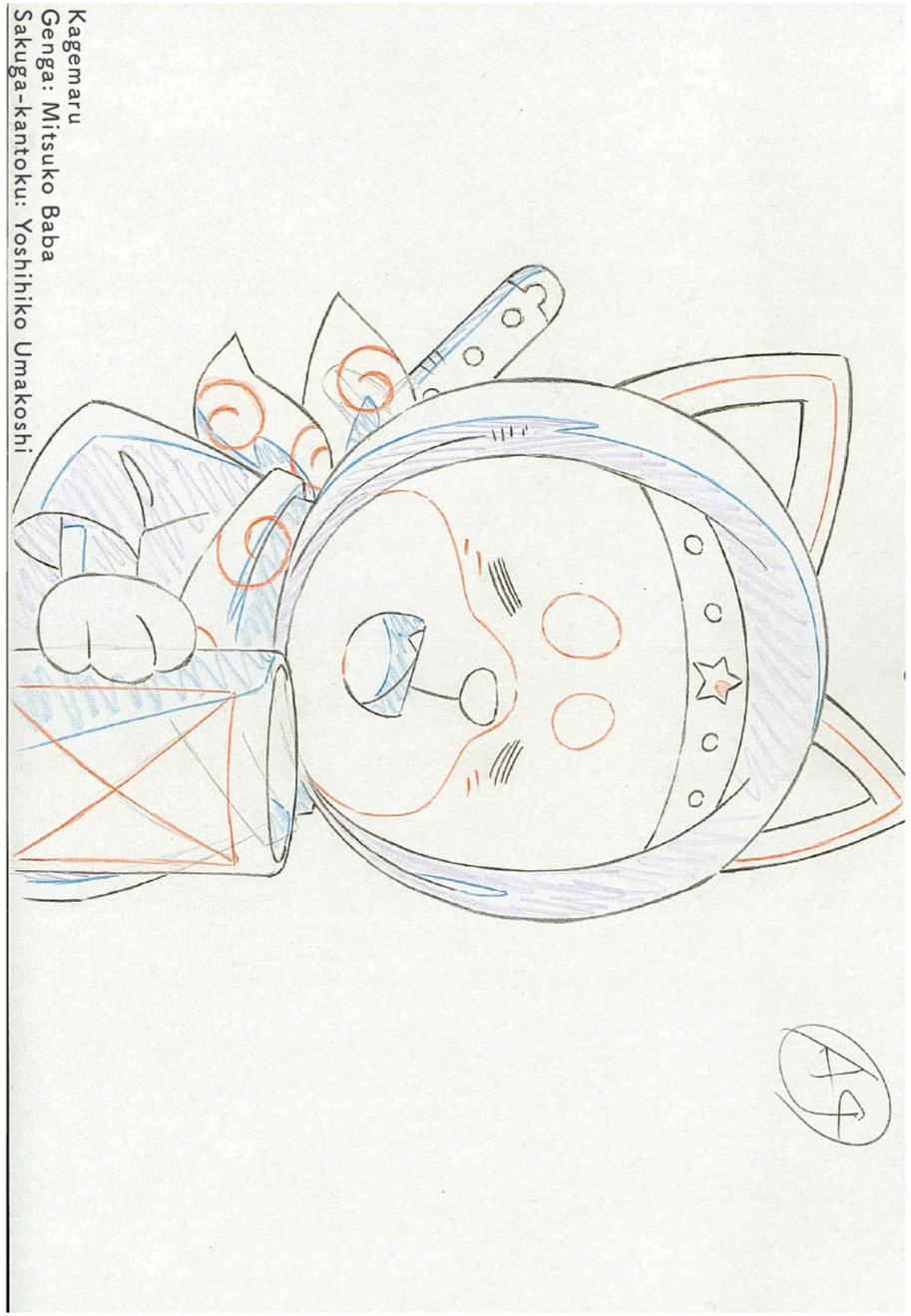


14

And you're done! Arrange all the sheets in order with A① placed at the very bottom and check the motion by using the para-para method. Make sure there are no wobbly movements or missing lines.

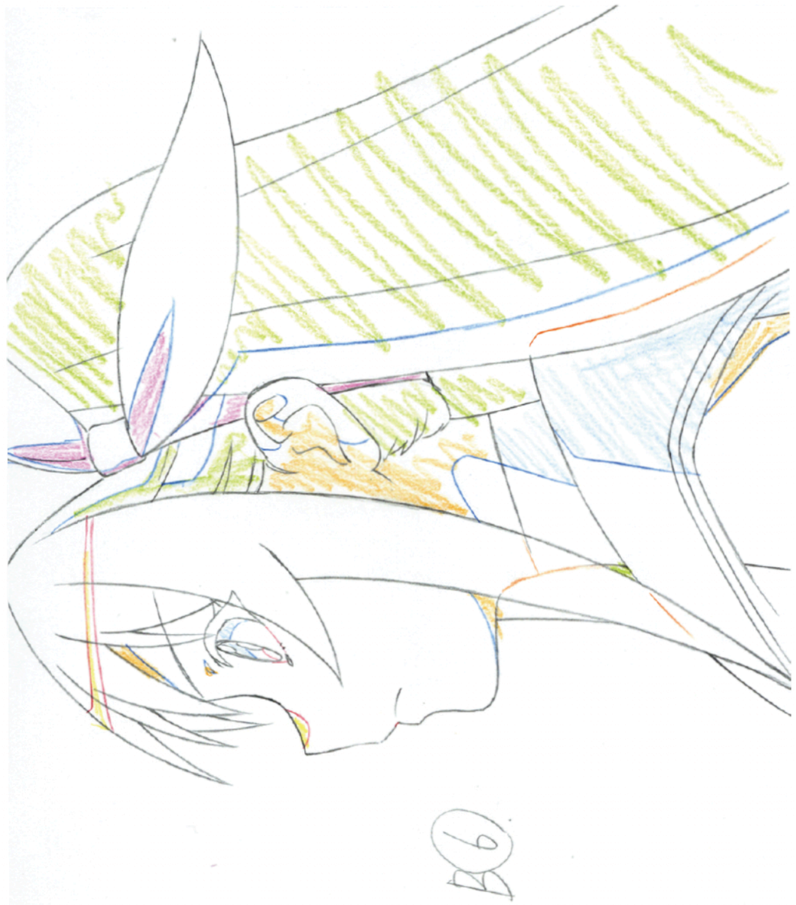
For when you absolutely can't manage it…

If you cannot get a good trajectory going for your animation using the tap-wari method, try cutting the tap holes off your rough drawings with a ruler (after doing tap-wari). Next, adjust the trajectory (of your rough drawings) using the te-para method, and then place the tap holes back on the tap and tape them back to your roughs.
You cannot cut the tap holes off during the clean-up process, but you can do whatever with your drawings when they are at a rough sketch stage.



Kagemaru
Genga: Mitsuko Baba
Sakuga-kantoku: Yoshihiko Umakoshi

The Animator Skill Test Materials Collection for Level 5 and 6 containing 96 pages in total is currently on sale! Please check the website for details!



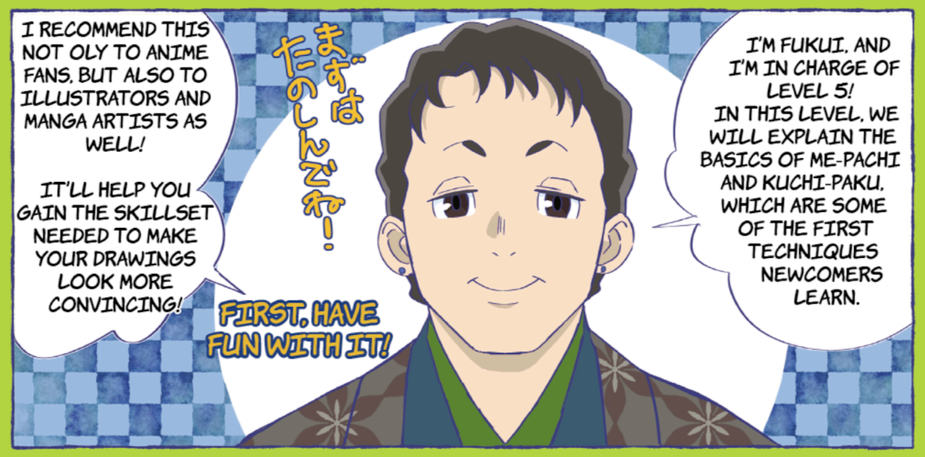
Kotoko Abiko
Layout: Masaaki Iwane
Sakuga-kantoku: Satoshi Koike
Genga: Rie Eyama

Level 5

PART. 1
About Me-Pachi

PART. 2
About Kuchi-Paku

PART. 3
Various Types of Me-Pachi

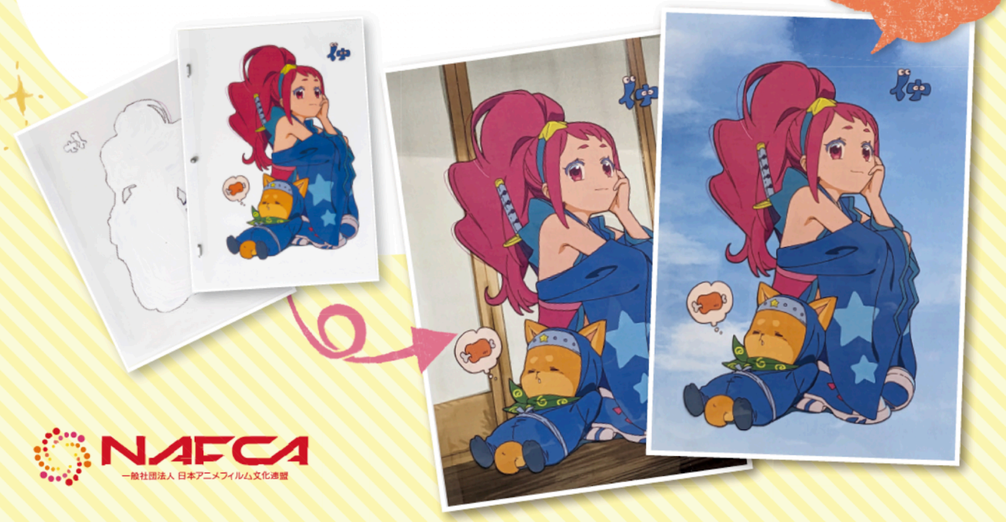


\ A new type of cel! /

SimuCel

In the old days of making anime, the staff would transfer the illustrations onto transparent sheets called "cels" and then paint each one by hand. These materials were called "seru-ga", and are currently being reconsidered as highly appraised cultural heritage artifacts.
At NAFCA, we want everyone to be able to enjoy these seru-ga, so we have developed a new hybrid style cel that combines printing and hand-painting techniques: "SimuCel"!
You can feel the unique texture of a real cel, and also place it over the background of your choice, the possibilities are endless! We'll be adding more and more versions, so plese keep checking back for updates!

You can enjoy endless combinations!



NAFCA
一般社団法人 日本アニメフィルム文化連盟

What is a SimuCel?

An illustration is printed on a transparent sheet called a "cel," and special cel paint is applied to it in addition to create a printed/hand-painted hybrid cel illustration. The name is a coined word from "Simulation Cel."

Because the area behind the character is transparent, you can enjoy placing the character in various situations by freely combining the illustration with different backgrounds!

Front-Facing Me-Pachi

We'll use two genga drawings. This is the most basic "blinking" action. We have an aki-me (open eye), and a toji-me (closed eye), so we have to do naka-wari in between these. The instructions written on the genga indicate that Maruo is the A-cel, and the eyes are the B-cel.

What cel are the eyebrows on?

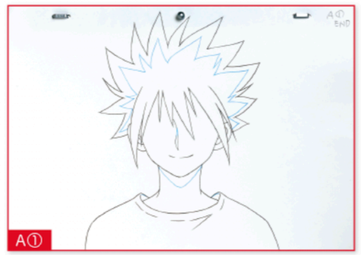
If we look at the second genga drawing (B ②), we can see that the eyebrows also move, so they're included in the B-cel. When doing me-pachi, it's common to make the eyebrows move as well.

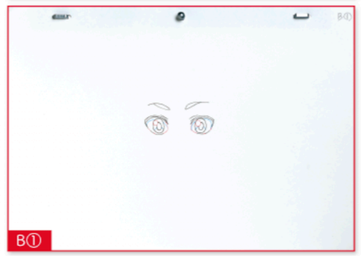
If we have to do naka-wari for the position in between aki-me and toji-me, why is it written as number 3 on the timesheet… woof?

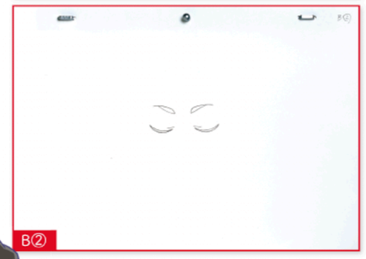
For simple eye blinking, you generally begin with the aki-me position, then go straight to the toji-me without any naka-wari. When the eye opens again, that's when we do naka-wari.
As a result, the timesheet for a blinking action would look like this: aki-me (①) toji-me (②) naka-me (3) aki-me (①).

Uhh… I feel like I might get it wrong a few times before I get used to it…

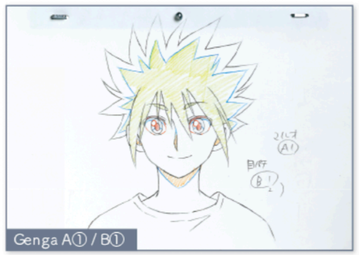
Douga (Gen-tore)



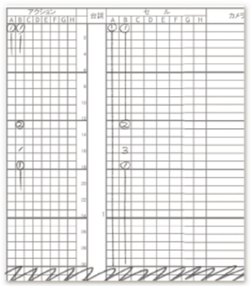




Genga

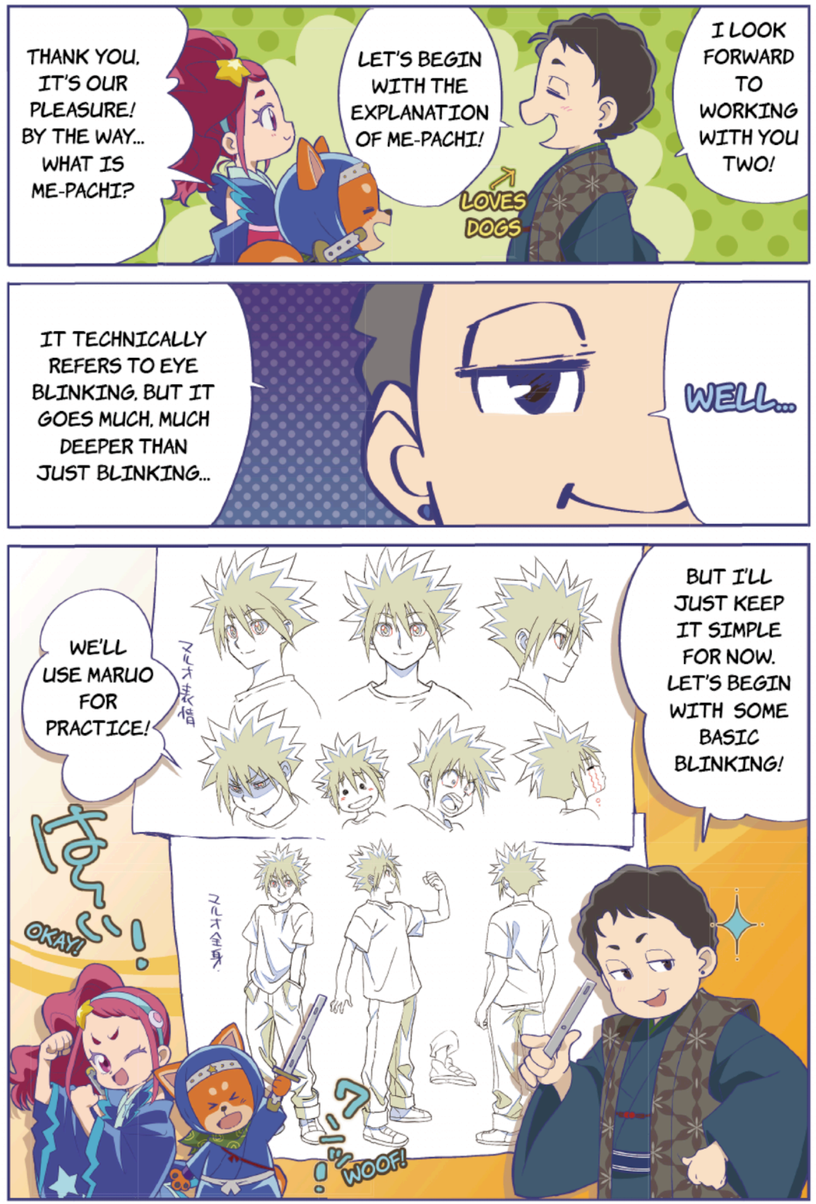


Timesheet

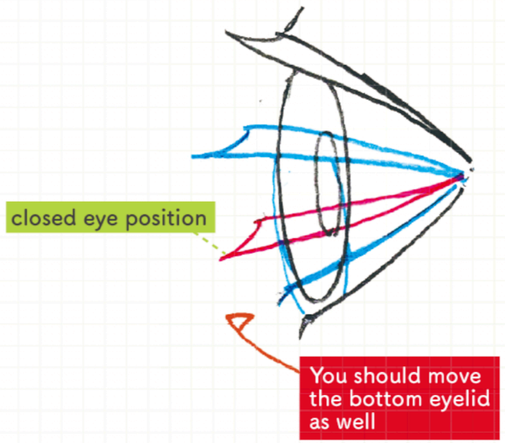


A normal pattern for eye blinking has one naka-wari drawing that is closer to the aki-me position. Unless genga has specific instructions otherwise, the basic rule of thumb is: "For blinking, do one naka-wari drawing closer to the aki-me."

PART. 1 About Me-Pachi



Things to consider when the eyes close

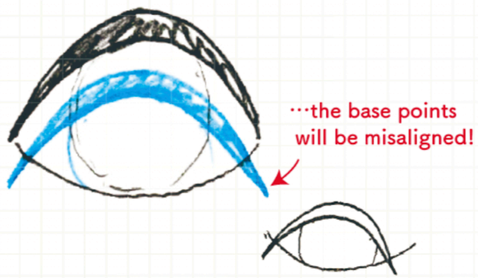


Even for characters drawn in a "deformed" style, it is extremely rare for the closed eye to be at the same position as the bottom eyelid. The bottom eyelid must also move.

When drawing closed eyes or half-open/half-closed eyes, don't forget to keep checking the balance of the entire drawing of the face.

wrong If you don't change the angle of the eyelid…

If you simply slide the shape of the eyelid down without changing its angle, the base points will no longer be aligned and you will not be able to connect the top and bottom eyelids, as seen here.

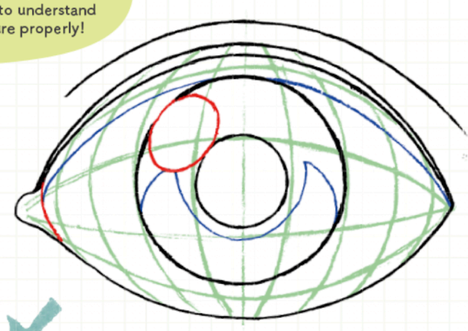


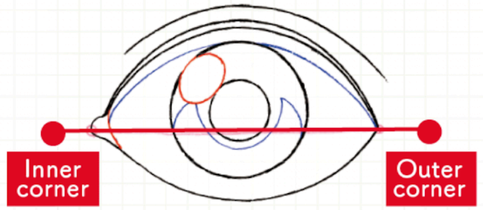
OK

Draw the eye's opening and closing motion by changing the angle of the eyelid while using the inner and outer corners of the eye as the base points.

Breakdown of the Eyeball

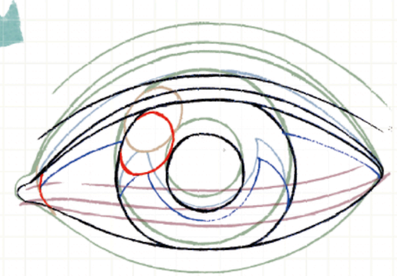
Always keep in mind that an eye is a sphere.





When drawing douga, always be aware of the inner and outer corners of the eye. We will use them as base points for opening and closing the eyelids.

The highlights in the pupil will look most natural if they follow the structure (outline) of the eyeball. You should not just move them up and down.

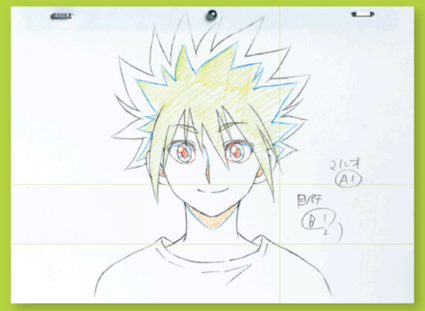


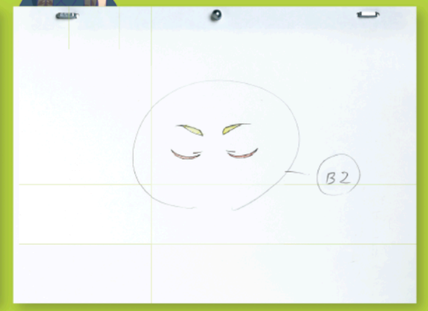
If we approach it realistically, this is what the motion would look like.
However, when it comes to drawing in an anime style, the middle drawing – the "half-open" or "half-closed" position – will appear too small, so some adjustments need to be made. Please refer to page 64 for details.

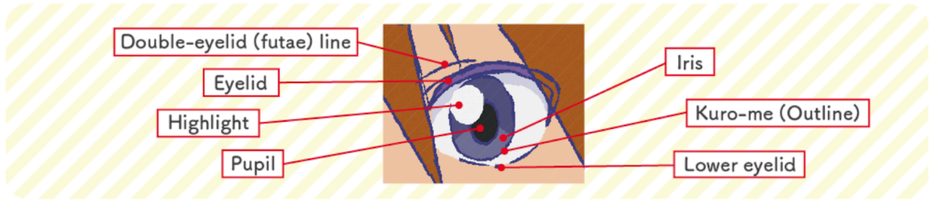
Front-Facing Me-Pachi: Step-By-Step

Go through the basic steps 1 through 4 (see pages 38-39). Here is the genga we will perform naka-wari on. We will draw Maruo's me-pachi action. Refer to page 61 for the timesheet.

Do the eyes of your favorite anime character show through their hair? The more you pay attention to these kinds of things while watching anime, the more fascinating it will becomes!

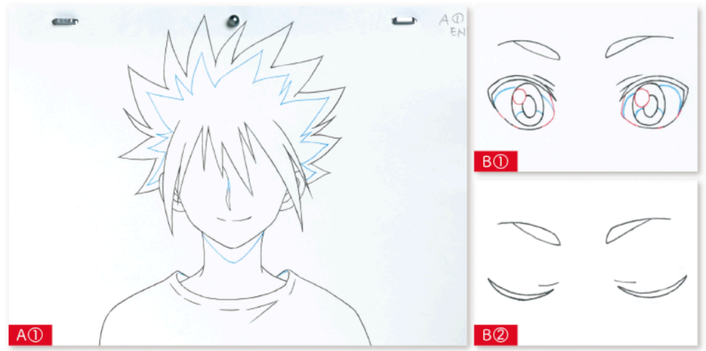






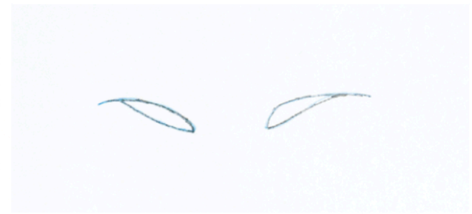
1

First, trace the genga. The head and shoulders are one drawing, the aki-me is another, and the toji-me is the final one, which makes it three in total.
The douga numbering is as follows: the head and shoulders are A①, the aki-me is B①, and the toji-me is B②.



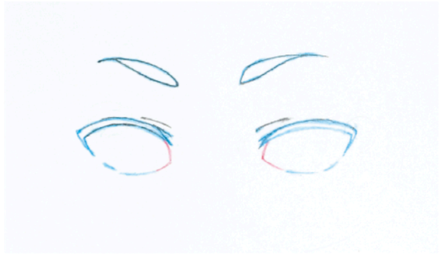
2

Switch on the lightbox, place B① and B② on the top, and on top of them, place a douga-youshi. Draw the rough naka-wari while performing checks with the te-para method. First, we will draw the eyebrows between B① and B②.
In this case, our naka-wari drawing is opening the eye from the toji-me to the aki-me position, so if you move the eyebrows a little bit faster (earlier) than the eyes, it will look natural. In terms of tsume-haba,the eyebrows should be even closer to the aki-me position than the eyes.
Be sure to always check the sakuga-chuui-jikou and character settei sheets to know whether the eyes, eyebrows, and eyelids are meant to be visible through the bangs of the character's hair or not.



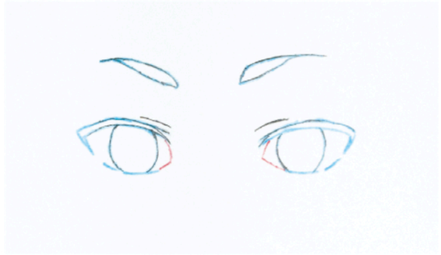
3

Draw the eyelids. Match the inner and outer corners of the eyes to those on the traced genga and be aware that these are the base points for the opening and closing movement of the eyelids.
Connect the shiro-me (whites of the eyes) using color pencils. When doing so, draw the whites slightly outside of the original lines so that the eyes do not end up looking smaller than in the aki-me position.



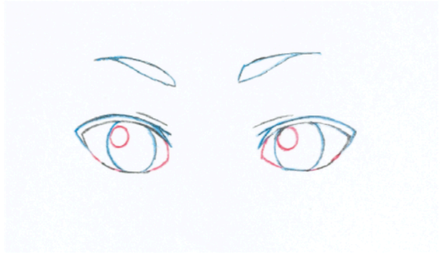
4

Draw the double eyelid line (the short line right above the eyelid) close to the aki-me position. Lower it a little while keeping the same shape as in the aki-me.
Then draw the kuro-me (the black outline of the eye). As with the shiro-me, the kuro-me lines should also be slightly on the outside so as not to make it look smaller than in the aki-me.
Be careful not to break the balance between the right eye and the left eye.



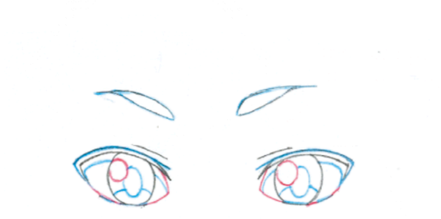
5

Draw the highlights. Keep in mind that the eye is a sphere, as we saw in pages 62-63, and draw the highlights the outlines shifting their position downwards.



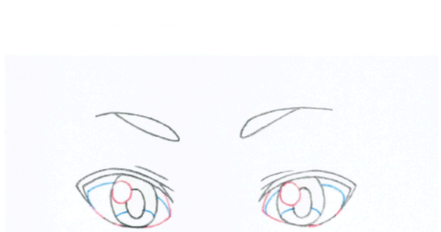
6

Draw the shadows. Be careful not to change the area of the shiro-me that is in the shadow of the upper eyelid from what it is in the aki-me position. Again, don't forget that the eye is spherical, when moving the shadows.



7

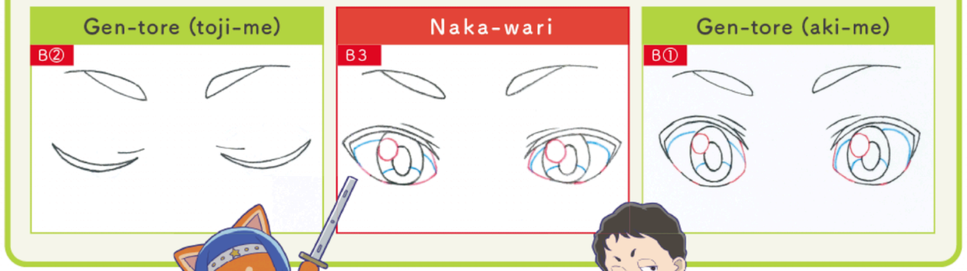
Place your rough sketch over the genga trace, then put a new douga-youshi on top for the clean-up, and refine your rough lines while constantly checking back using the te-para method. It's more efficient if you switch the lightbox off and on to check your lines against the drawings below more clearly.
Once you're done checking for any mistakes or omissions, you're all finished!



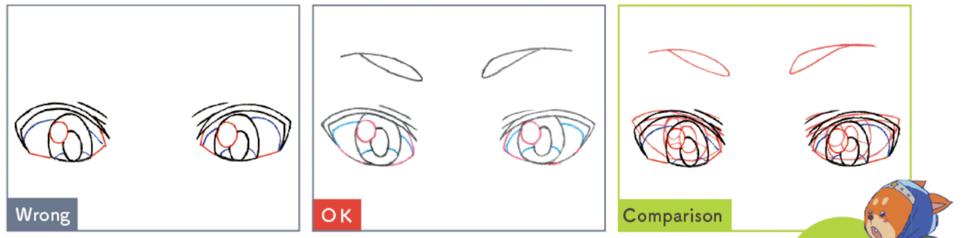
Front-Facing Me-Pachi

Common mistakes

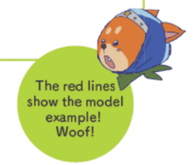
Model example



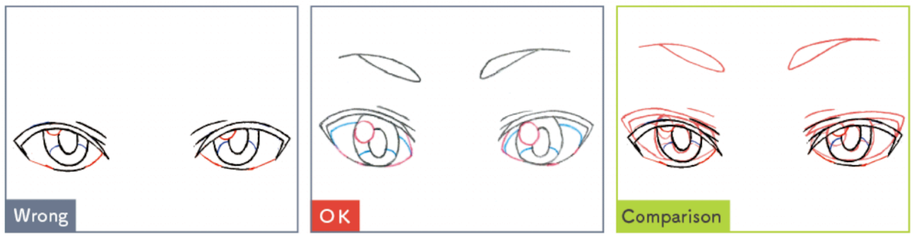
Mistake 1 Simply sliding the eyes and eyelids down when tracing



The eyes and eyelids have been traced as is, and just slid down to a lower position.
The inner and outer corners are misaligned, and it seems like the eye is now looking downwards because it's been cut off at the bottom. You should do the naka-wari properly.

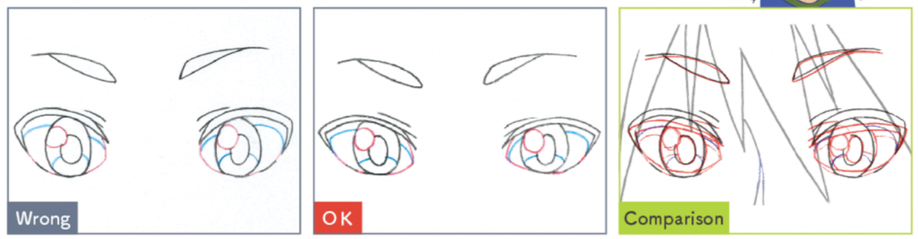


Mistake 2 Simply sliding the eyelids down when tracing



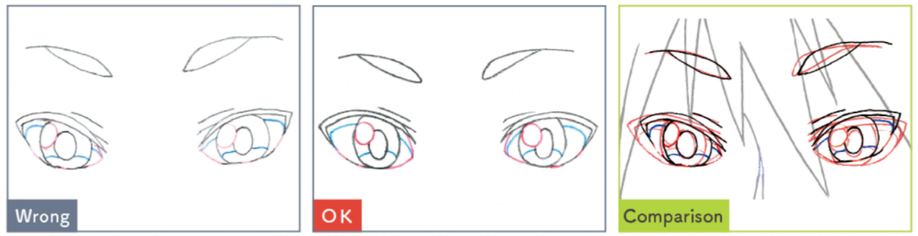
The eyelids have been traced as is and just shifted downwards. The highlights in the eyes are almost completely absent, which gives off a very different impression overall. Be sure that the facial expression doesn't change as a result of your naka-wari.

Mistake 3 Drawing too close to the aki-me



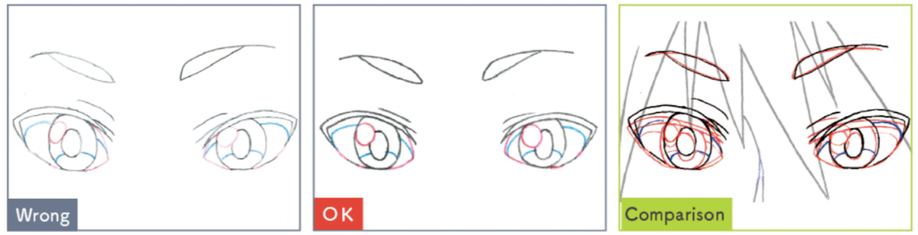
If the naka-me is too close to the aki-me, it will look like there has been no naka-wari done at all, so take care to avoid that.
Study the model example carefully and imitate the degree of how close to the aki-me you should draw your naka-wari.

Mistake 4 The eyes have shrunk in size in the naka-wari



There are many retakes of this type. The size of the eye can be adjusted by drawing the shiro-me's iro-trace(color pencil) lines just slightly outside (of where they are in the aki-me position).
Keep checking back multiple times with the te-para method to make sure it hasn't gotten smaller.

Mistake 5 The degree to which the eyes are open is different between the left and right



The balance between the left and right eye is very important. Draw well-balanced eyes with symmetry, to avoid one eye looking like it opens faster than the other.

(Sideways me-pachi)

Next, I'll teach you about sideways me-pachi!

There's only one eye visible, so it should be easier than the front-facing wan!

Huh?
Where is the inner corner of the eye?

Ah, you are very observant! When looking from the side, it's often hard to tell where the inner corner is, but even then the structure of the eye and the basic approach remains the same.

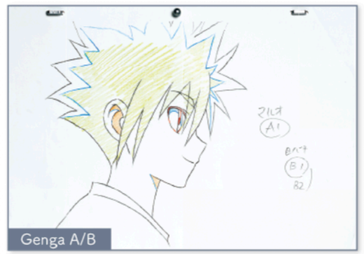
Even when there's just one eye, there are still many things to consider! Woof!

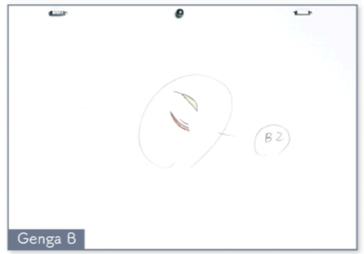
There are many things which are not visible or have not been drawn in the genga, but you need to be aware of them when drawing the douga.

The timesheet is the same for the side-view, too! Woof!

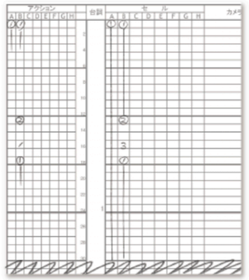
Douga (gen-tore)

Genga





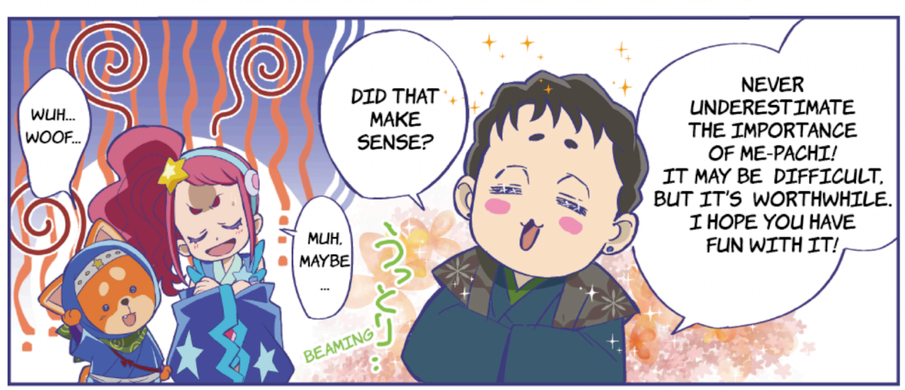
Timesheet



FOR EXAMPLE, HOW WILL YOU DRAW THE EYES WHEN PORTRAYING A SIDEWAYS GLARE? WHAT'S THE TIMING IN THAT SITUATION? HOW MANY DRAWINGS SHOULD YOU PUT INBETWEEN? HOW MANY FRAMES (KOMA) SHOULD IT BE? THE GENGA STAFF NEEDS TO CONSIDER SO MANY ACTING-RELATED THINGS WHEN COMING UP WITH GENGA, AND THE DOUGA STAFF HAS TO PICK UP AND UNDERSTAND THOSE INTENTIONS FROM THE GENGA AND DO NAKA-WARI FROM THEM. WHICH END SHOULD THE MOVEMENT LEAN (WHAT THE TSUME-HABA IS) TOWARDS IN ORDER TO MATCH THE INTENTION OF THE PERFORMANCE? WHAT ABOUT WHEN A CHARACTER IS SAD? OR HAPPY? OR SURPRISED? OR HAS JUST WOKEN UP? OR SLEEPY? OR CRYING? OR ANGRY? OR WHEN THEY LOOK AS IF THEY'RE FEELING DOWN? OR WHEN THEY'RE HOLDING BACK TEARS?

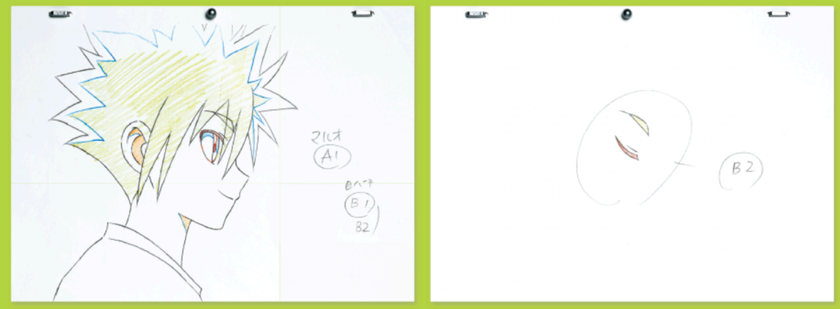
EXPRESSIONS POSSIBLE WITH JUST THE EYES ARE ENORMOUSLY VARIED. I CAN'T BEGIN TO COUNT THEM ALL, AND THERE IS NO 100% CORRECT ANSWER NOR A MANUAL TO WORK FROM. FOR KUCHI-PAKU, VOICE ACTORS CAN INCORPORATE VERY SUBTLE EXPRESSIONS OF EMOTIONS INTO THEIR PERFORMANCE. BUT WHEN IT COMES TO ACTING WITH THE EYES...

IT IS ALL COMPLETELY DOWN TO THE SKILLS OF AN ANIMATOR. THERE IS A WIDE VARIETY OF DESIGNS, AND THERE IS EQUALLY AS MUCH VARIETY IN EXPRESSIONS. TRY TO CHALLENGE YOURSELF AND DRAW A LOT WHILE GETTING INSPIRATION FROM ANIME, LIVE-ACTION, MOVIES, TV SERIES, PLAYS, AND EVERYDAY LIFE!



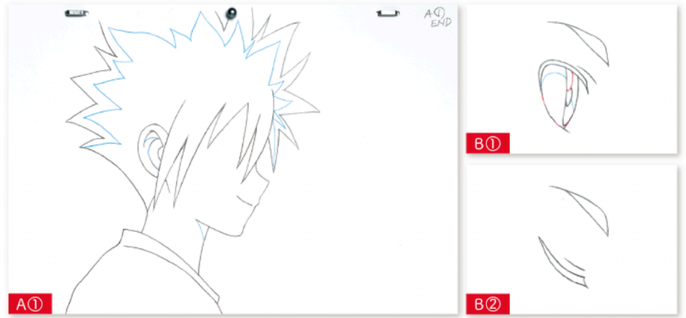
Side-view Me-Pachi: Step-by-Step

Go through the basic steps 1 through 4 (see pages 38-39). Below are the genga drawings we will be doing naka-wari on. The sequence portrays Maruo's me-pachi viewed from the side. Please refer to the timesheet on page 69.



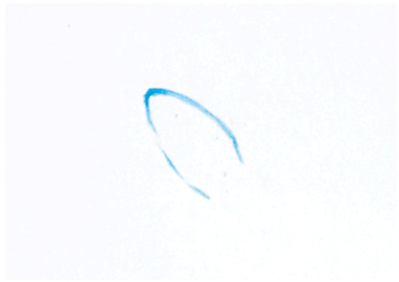
1

First, trace the genga. There's the head and shoulders part, and then one aki-me, and one toji-me, making it a total of three drawings.
The douga for the head and shoulders is labelled as A①. The aki-me is B①, and the toji-me is B②.



2

Switch on the lightbox, place douga-youshi over B① and B②, and draw a sketch for the naka-wari (B3) while using the te-para check method. Blinking is usually drawn closer to the aki-me position in terms of tsume-haba.



3

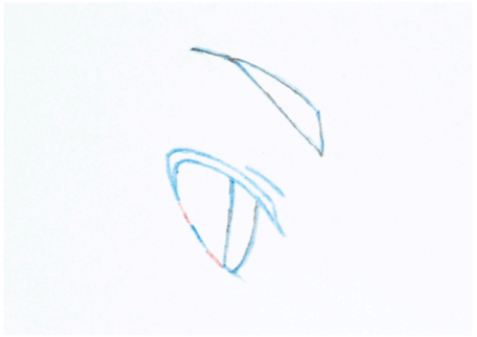
As explained in pages 62-63, the motion of opening and closing the eye revolves around two base points, which are the inner and outer corners of the eye. In cases when we cannot see the inner corner of the eye, you need to picture it three-dimensionally - you should imagine the inner corner on the opposite side of the outer corner (which is the side where the nose is).
The lower eyelid should also be included in the naka-wari, being positioned closer to the aki-me.

4

Try to widen the pupil slightly to the sides, so as not to make it look smaller compared to the aki-me. The upper eyelid above the eyelashes should be moved down while keeping the same form as in the aki-me. After that, you need to connect the whites of the eye with a color pencil. Here, you should draw the whites of the eye a little bit to the outside in order not to make the eye look smaller compared to the aki-me.

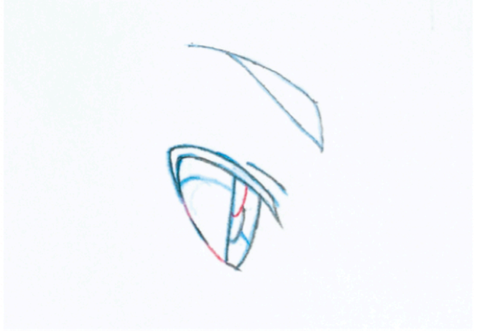
5

Draw the eyebrows next.
In this case, our naka-wari goes from the toji-me to the aki-me. If you make the eyebrow move a little bit earlier than the eye, it will look more natural. In terms of the instructions for the movement (tsume-haba), you should position the eyebrow itself even closer to how it is in the aki-me drawing compared to the position of the rest of the eye relative to the aki-me.



6

Draw the highlights and other details inside the pupil. Move them according to the shape of the eye.
Be careful not to change the area of the shiro-me that is in the shadow under the upper eyelid from how it is in the aki-me position. Again, do not forget that the eye is a sphere when moving the shadows.



7

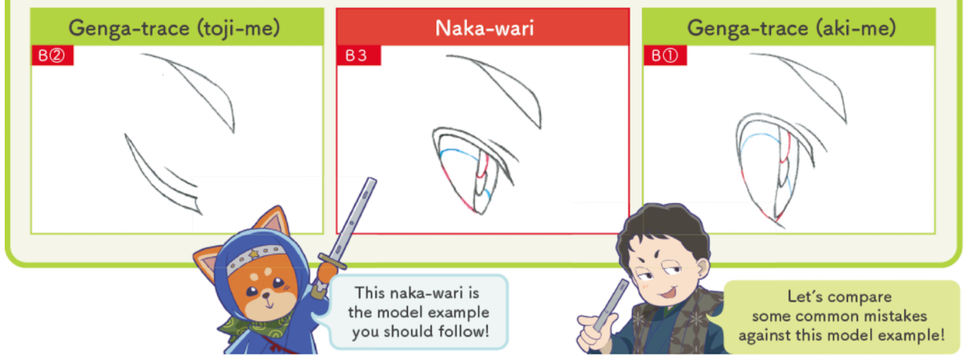
Place your rough sketch over the gen-tore, then overlay a new douga-youshi on top for clean-up, and trace your rough lines while constantly refining them and checking back using the te-para method. It will be more efficient if you draw while switching the lightbox off and on to check your lines more clearly.
Once you're done checking for any mistakes or omissions, you're all finished!

Side-view me-pachi

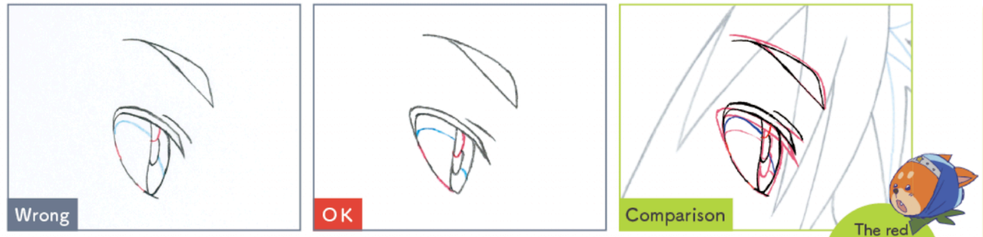
Common mistakes

Take care not to fall into these traps! I see them all too often…

Model example

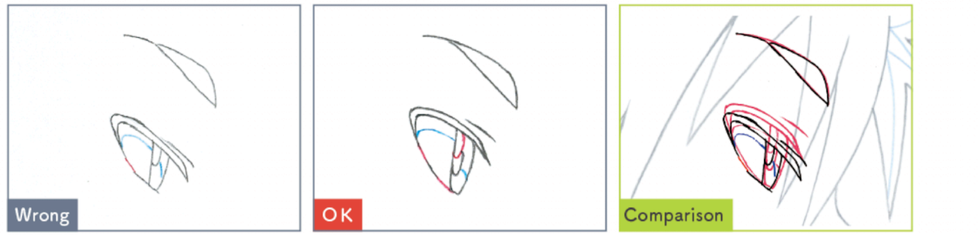


Mistake 1 The width of the eye has changed



Because the outer corner of the eye and the tip of the eyelashes have been drawn shorter, the width of the whole eye has changed.
If you do not do a lot of te-para checks, you will make a lot of mistakes where shapes change size, so be careful.

Mistake 2 The naka-wari has been drawn too close to the toji-me position



It is too close to the toji-me position. When depicting blinking, you should draw it a little closer to the aki-me position.

Mistake 3 The eyelids were just slid down in terms of position and traced over

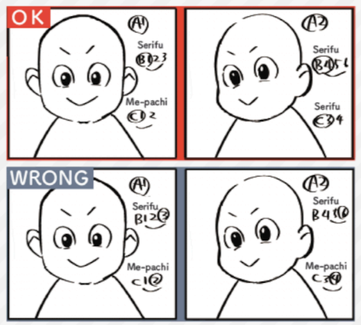
This is a common mistake where the eyelids from the aki-me position have simply been traced and slid downwards to a lower position.
Do the naka-wari while considering the outer and inner corners of the eye in order to to gain an understanding of the volume of the eye, as seen in pages 62-63.

Mistake 4 The naka-wari is too close to the aki-me

It has been drawn too close to the aki-me position, making it too similar to the genga trace drawing. Since it will not look like it is in motion this way, try to aim for a mid-open position like in the example shown here.

COLUMN 1 For the genga staff!

As a general rule, for kuchi-paku, you should label the toji-kuchi position with the lowest genga number, and for me-pachi, the aki-me position should be the one with the lowest genga number.
This rule does not change no matter how many genga drawings there may be.
Numbering genga like in the mistake example below will cause problems for other staff members down the line, so please avoid doing this.

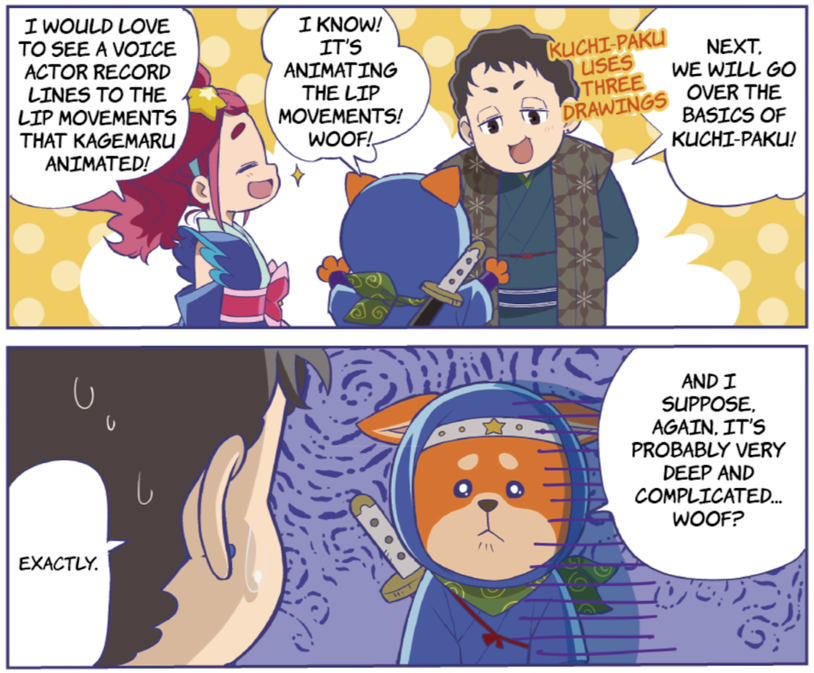


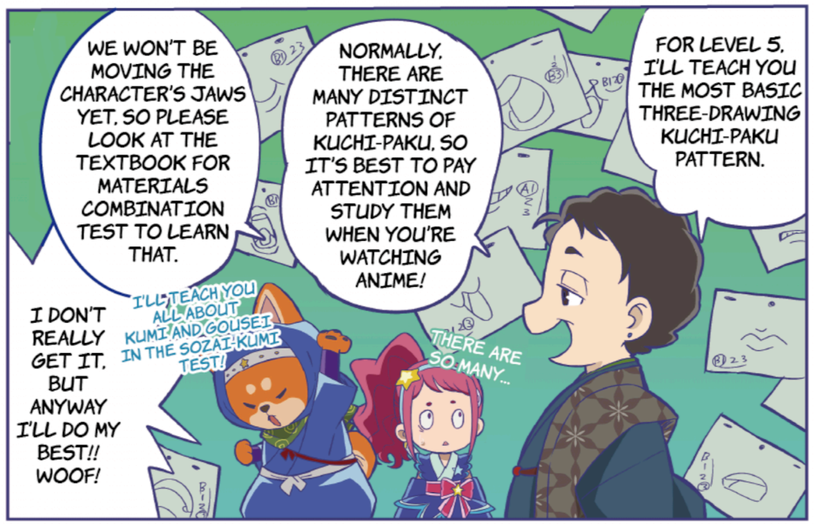
COLUMN 2 What to do when you think there are missing details in the genga

Sometimes you may come across instances where, for example, according to the settei sheets there should be three buttons on clothing but there are only two in the genga, or earrings are missing, etc… It's rare, but there are times when the genga staff forgets to draw some details.
In cases like this, the douga staff should add the necessary corrections.
First, check with the previous and following genga, and decide whether those details should be included or omitted; if you choose the former, then add them while referencing the settei sheets. In general, you are not supposed to change the genga drawings, so if you are unsure or if you don't think you can skillfully add the details, you should consult with the seisaku-shinkou (production assistant).
Ignoring the issue completely is absolutely forbidden. If you think there's a mistake, you must ask the seisaku staff. The same goes with omissions on the timesheet. Always bear in mind that the douga staff is like the last line of defense of the sakuga department.

It's important to take breaks, too… Woof…

PART. 2 About Kuchi-Paku





Challenge with Kagemaru!
3 Choice question!

Q What should you write next to the last douga number?

A

終
(Owari – meaning "end" in Japanese)

B

END (in English)

C

完
(Kan – meaning "complete" in Japanese)

Answer B – END

Hmm...

Q When submitting the drawings, what order should they go in from the bottom?

A

Reverse alphabetical order, Z → A

B

Doesn't matter

C

Alphabetical order, A → Z

Answer C – The A cel should always be at the bottom of the stack.

Q In anime, how many koma (frames) are there per second?

A 24 k (koma)

B 30 k (koma)

C 60 k (koma)

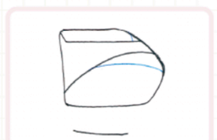
Answer A

Breakdown of teeth and tongue

For kuchi-paku, the shape of the mouth is obviously important, but understanding how the teeth and tongue move, as well as how the shadows should be applied, is also crucial. Let's try to understand how the mouth area is structured as a whole.

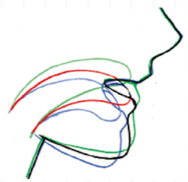
Teeth

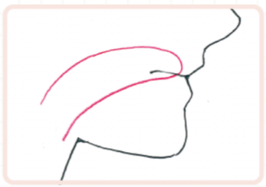
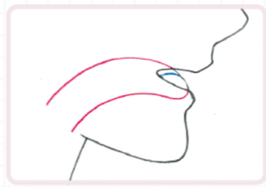
In real life, the top row of people's teeth doesn't actually move when they open and close their mouths.
However, in anime, if characters` lips move but their teeth remain in a static position, it looks unnatural, so we make them move slightly.
Try not to change the vertical length of the teeth between the aki-kuchi and naka-kuchi drawings.

Toji-kuchi			
Naka-kuchi			
Aki-kuchi			

Tongue

It's easy to understand if you think of the motion of a real tongue.
When drawing the naka-kuchi,you should never directly trace the tongue as is from the aki-kuchi position.



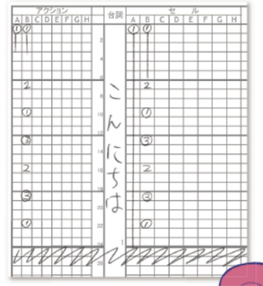
Toji-kuchi	Naka-kuchi	Aki-kuchi
		
Because the mouth is closed, the tongue is positioned at the roof of the mouth.	You must not draw the same tongue as in the aki-kuchi drawing. Think of the movement of the tongue when doing naka-wari.	When the mouth is open, the tongue attaches to the lower jaw.

(Front-Facing Kuchi-Paku)

Most shows generally use three drawings for kuchi-paku. For those with more, they would still have only around five variations, one for each of the vowel sound in Japanese. And even then, the shape of the mouth for the "oo" (like "oo" in "loop") sound is so similar to the one for the "oh" (like "o" in "hope") sound that it would mostly be just four.

Humans really move their mouths a lot! Woof!

Also, there are cases when the toji-kuchi (closed mouth) is portrayed as gritting teeth. This is called ha-kuchi ("teeth-mouth"). There are more, like when a character has lipstick applied, etc··· There is a wide range of variations, so watch a lot of anime to study up on them.

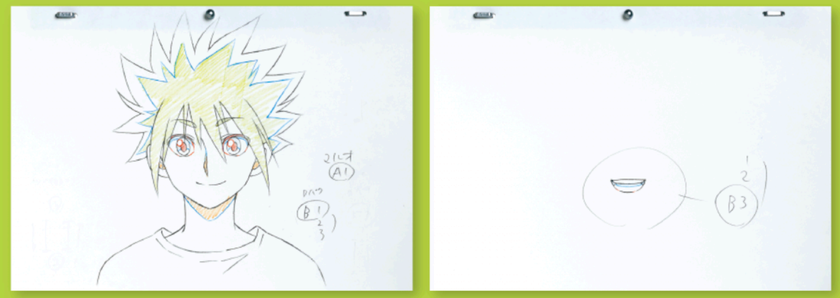
Douga (gen-tore)	Genga
A①	Genga A①/B②
B①	Genga B③
B③	timesheet 

COLUMN

The timesheet for kuchi-paku is rarely ordered cleanly as ①, 2, ③. The three kuchi-paku drawings are often sequenced with varying order to give the impression of speaking naturally.

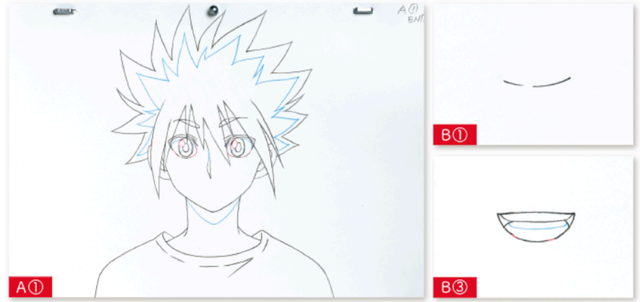
Front-Facing Kuchi-Paku: Step by Step

Go through the basic steps 1 through 4 (see pages 38-39). Here are the genga we will perform naka-wari on. We will portray Maruo's kuchi-paku action. Refer to page 76 for the timesheet.



1

First, trace the genga. The head and shoulders are one drawing, the aki-kuchi is another, and the toji-kuchi is the other one, so there are three in total.
The douga numbering is as follows: the head and shoulders are A①, the toji-kuchi is B①, and the aki-kuchi is B③.



2

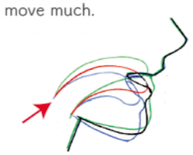
Switch on the lightbox and place B① and B③ on the tap, and on top of them place a new douga-youshi. Draw the rough naka-wari (B2) while checking with the te-para method, to make sure that the shape of the mouth does not warp.
You should also place your sketch on the drawing of the head and shoulders (A①) and check so that they don't look odd when put together. If the mouth is misshapen, then the movement will become staggered and won't look smooth, so be careful.

3

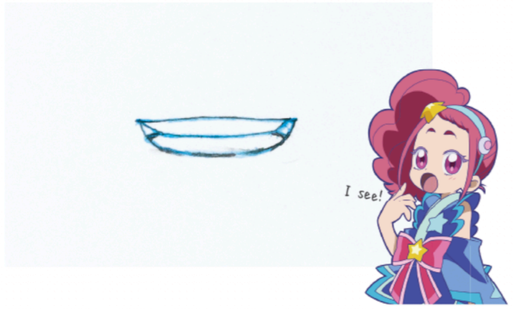
If the teeth don't move at all it, will look unnatural, so you should move them slightly, together with the upper lip.
People's preferences differ regarding how to depict teeth, but the thing to prioritize is "having them not look strange as a drawing". Also, if the vertical length of the teeth in the naka-kuchi is longer than in the aki-kuchi, that will look strange, so please avoid this.

4

Draw the tongue. See page 77 for details.
The root of the tongue is located at the base of the throat, and it doesn't move much.

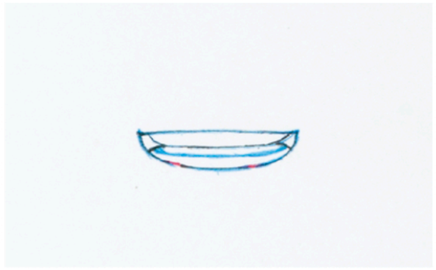


Reference



5

Please refer to page 77 and draw the shadow of the tongue. It is not just a trace over from the aki-kuchi position, you should move it a bit as well.
Change the angle of the shadow line accordingly to account for the curvature of the tongue.



6

With that, the rough sketch is complete.
Place your rough sketch over the gen-tore, then overlay a new douga-youshi on top for clean-up, and refine your rough lines while constantly checking back using the te-para method. It's more efficient if you switch the lightbox off and on to more clearly check your lines against the drawings below.
Once you're done checking for any mistakes or omissions, you're all finished!

7

Place it over the drawing of the face and check so that it doesn`t look strange.

This time, we're doing tsume closer to the toji-kuchi position, but sometimes you have to do it closer to the aki-kuchi position. It's often a case-by-case situation, but if you draw too close to the aki-kuchi, then it will look as if the lips are quivering rather than actually flapping, so be careful.

We see these same mistakes all the time, so be very mindful of them when you work!

Front-facing kuchi-paku

Common mistakes

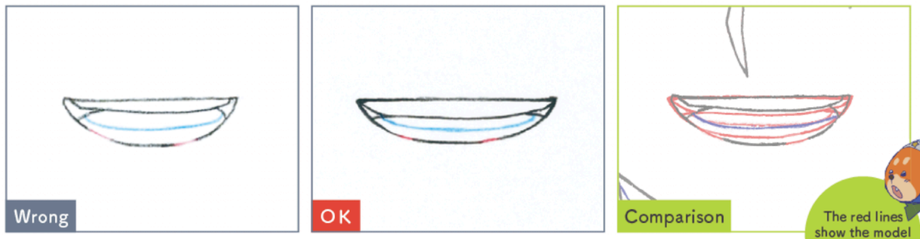
Model example

Gen-tore <Toji-kuchi>	Naka-wari	Gen-tore <Aki-kuchi>
B①	B2	B③

This naka-wari example is the one you should follow, woof!

Compare the model examples with the mistakes!

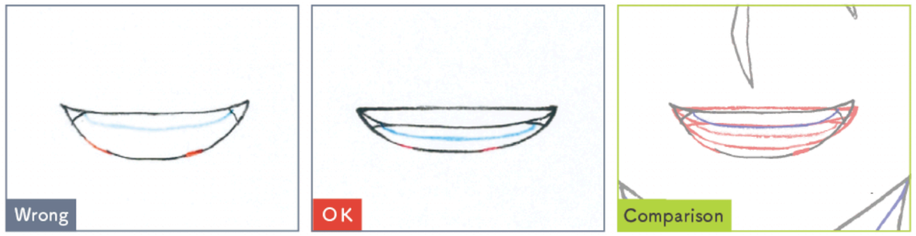
Mistake 1 The width of the mouth has changed



The red lines show the model example! Woof!

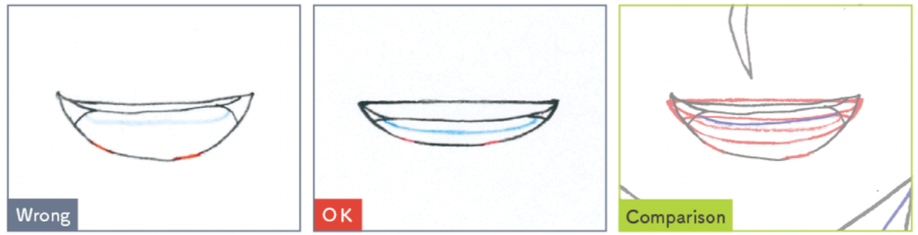
The line depicting the teeth has been drawn warped, so it looks like the width has changed.
If you have trouble drawing horizontal lines, you can reposition the paper to an angle that you find more comfortable to draw at.
Make sure that you always check for any jitteriness or choppiness using the te-para method.

Mistake 2 No teeth



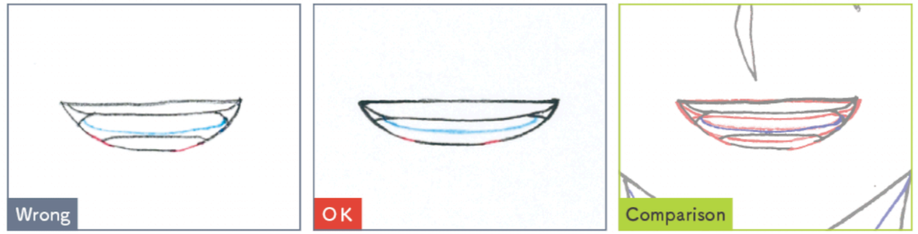
If the aki-kuchi position shows teeth, then you should also draw the teeth in the naka-kuchi position.
If the teeth are not drawn, then after the mouth is colored, it will end up looking like the teeth just disappear unnaturally during animation (this effect is known as "paka").

Mistake 3 The expression has changed



The line of the top lip has changed its shape, so the expression looks different. Try to maintain the shape of the top lip the same as in the aki-kuchi position.
You should also refer to the model example to keep the area of the teeth in the naka-kuchi drawing from changing too much.

Mistake 4 Drawing the bottom teeth



If there are no bottom teeth drawn in the aki-kuchi, then you should not draw them in the naka-kuchi either.

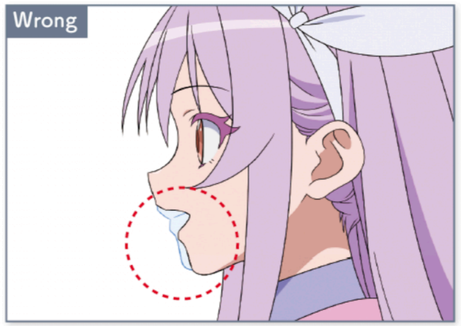
Key point!

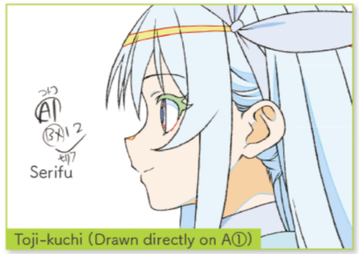
Sen-paka — A type of mistake in which some lines appear and disappear. You often see this with lines in drawings of hair. It's hard to spot them particularly in places where many parts are painted in the same color.

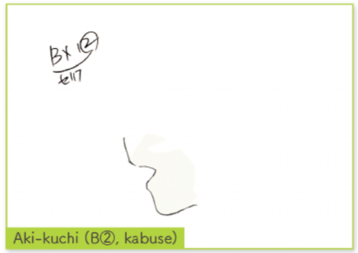
Iro-paka — A type of mistake where the color disappears and reappears. If a coloring error is too noticeable, then a retake is normally called.

Both of these are basically cases of forgetting to draw certain sections.
If you always keep checking your drawings with the pata-pata and te-para methods, you'll be able to spot where there have been omitted lines, as they will disappear and reappear.
One important responsibility as douga staff is diligently checking your work to avoid retakes.

Kabuse-serifu: Common mistakes







In cases when there is a kuchi-paku cut where the jaw itself moves, no matter what you do, the bottom image will always show through, so you cannot use the kabuse method! In this case, we have to use the "gousei" method.

Gousei?

I'll teach you all about gousei in the Materials Combination skill test, so check that out! For now, just bear in mind that in an "ago-paku" (jaw movement for dialogue) cut, you can't use kabuse!

COLUMN

Is kabuse-serifu necessary?

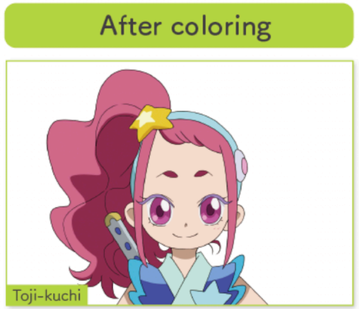
In the old days, there was a limit to how many cel layers and how many drawings could be used, so animators came up with the kabuse-serifu method as a useful workaround, but these days it instead sometimes leads to retakes and confusion, so it's probably best to avoid using it.

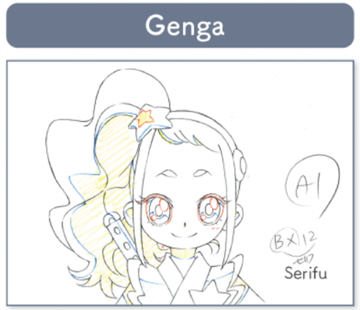
COLUMN

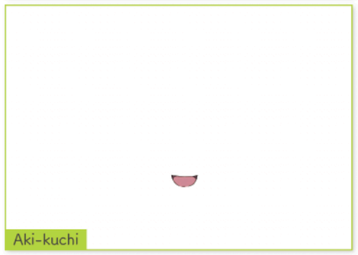
To the genga staff: please layer cels considerately so that they are easy to understand for everyone!

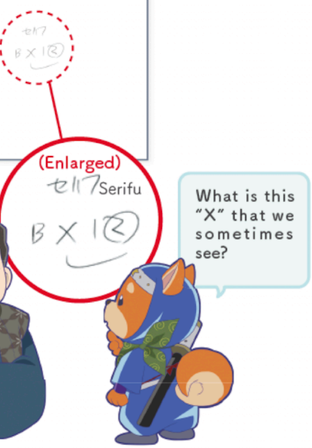
In the analog days, layering too many cels led to the colors of the bottom layers appear different, so normally the limit would be at cel-D (the fourth layer). Because of this cel layer limit, there was a certain common sense established regarding cel work within the anime industry. However, with production shifting to be done digitally, physical cels were replaced by digital layers, and this obsoletion of the cel limit led to a lot of multi-compositing, multi-layering, and other such types of cel work that don't really give much consideration for the later stages of production. As a result, the current situation is that there has been an increase in retakes being called at the shiage (coloring) and satsuei (compositing) sections.
Please be considerate of later sections of production by composing your cel work as you would do it working on paper as a basis.
For further information, please see the Materials Combination Skill Test textbook.(To be published in 2025)

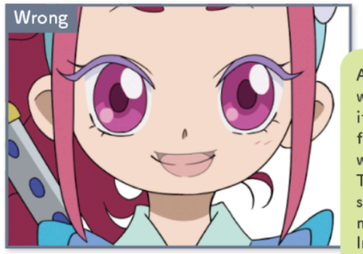
Points Concerning "Kabuse-Serifu"







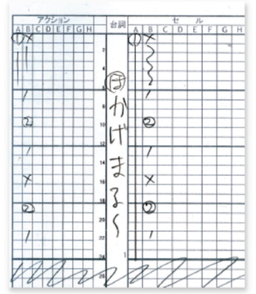




As you can see in the "OK" image here, we draw the aki-kuchi and actually place it over the toji-kuchi drawing, hiding it from view – hence it is "covered." That is why we call it a kabuse-serifu.
Therefore, if any part of the toji-kuchi is still visible after being covered, as in this mistake example, that warrants a retake. In this case, the genga staff should put it on a separate cel.

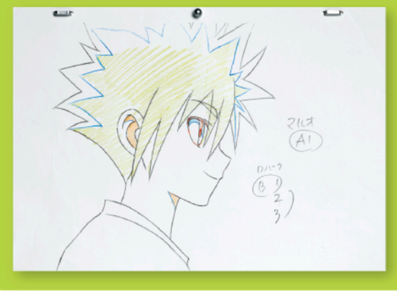
Obviously, the aki-kuchi should not be drawn on an A-cel! If you place the toji-kuchi (B②) over the aki-kuchi (A①), you cannot fully hide the bottom image.

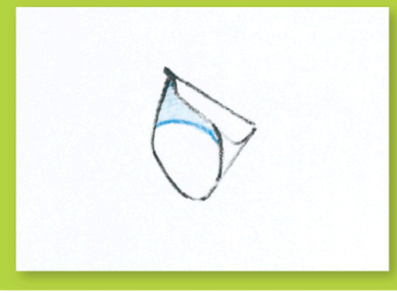
Timesheet



Side-View Kuchi-Paku: Step-by-Step

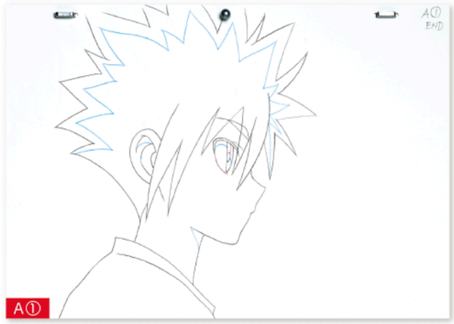
Go through the basic steps 1 through 4 (see pages 38-39). Here are the genga drawings we will perform naka-wari on. We will portray Maruo's kuchi-paku action. Refer to page 76 for the timesheet.

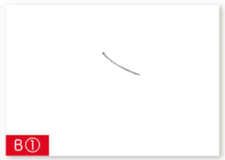




1

First, trace the genga. The head and shoulders are one drawing, the aki-kuchi is another, and the toji-kuchi is the other one, so there are three in total.
The douga numbering is as follows: the head and shoulders are A①, the toji-kuchi is B①, and the aki-kuchi is B③.



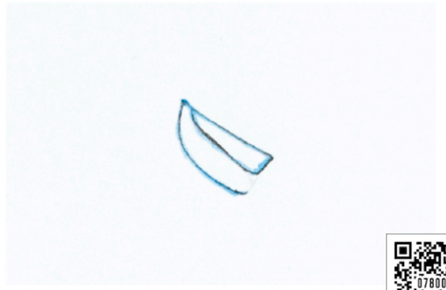


2

Switch on the lightbox and place B① and B③ on the tap, and on top of them place a new douga-youshi. Draw the rough naka-wari (B2) while checking with the te-para method. Start off with the lips. The top lip should be closer to the aki-kuchi position. Although it's mostly case-by-case, for this exercise, let's lower the position by a single line width. Using the corner of the mouth as an anchor point, draw the mouth opening wide to the front.
Place your sketch on the drawing of the head and shoulders (A①) and check so that they don't look odd put together.

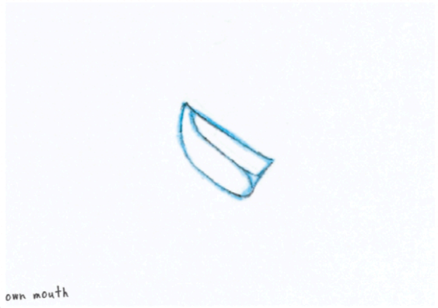
3

In reality, when a person opens their mouth, mouths their teeth don't move, but in anime it will look unnatural if they remain completely static, so you should make them move a little together with the top lip. With the aki-kuchi and naka-kuchi, make sure that the vertical length of the visible portion of the teeth does not change.
Also, make sure that the shape of the teeth does not change in between the aki-kuchi and naka-kuchi positions.



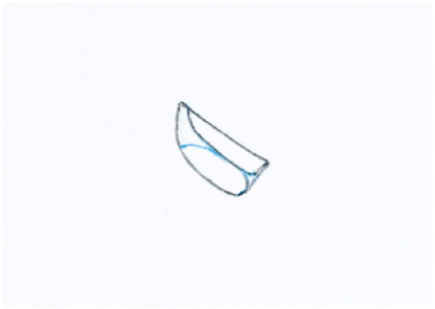
4

For the tongue line, you should not move the side where the throat is (the base of the tongue). You should move the tip of the tongue, making it go upwards.



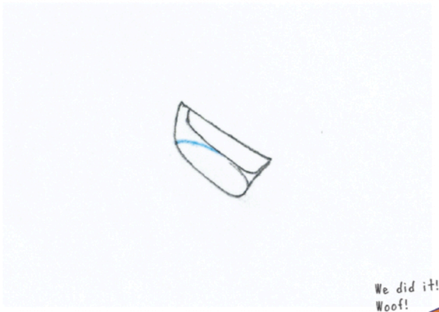
5

Use a color pencil for the shadow of the tongue, and draw it a little bit more towards the throat side. This often varies depending on the situation, such as for example where the light source is.
Thus please do not take this as the "only correct way" of drawing it.



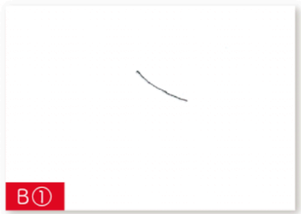
6

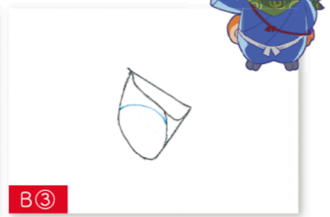
Place your rough sketch over the traced genga, then overlay a new douga-youshi on top for clean-up, and refine your rough lines while constantly checking back using the te-para method. It's more efficient if you switch the lightbox off and on to more clearly check your lines against the drawings below.



7

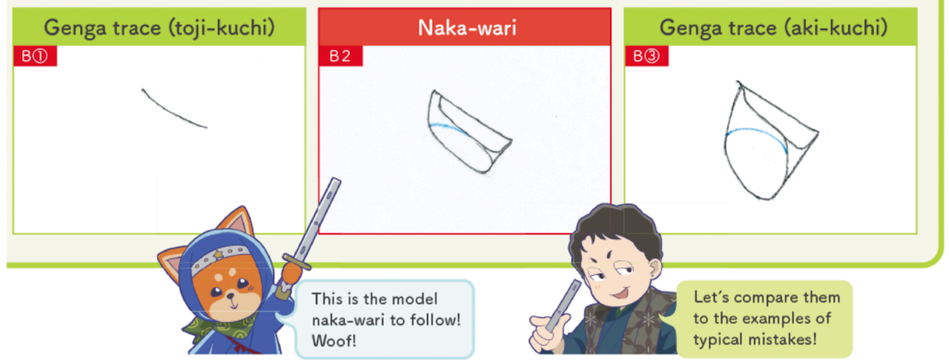
Once you're done checking for any mistakes or omissions, you're all finished!



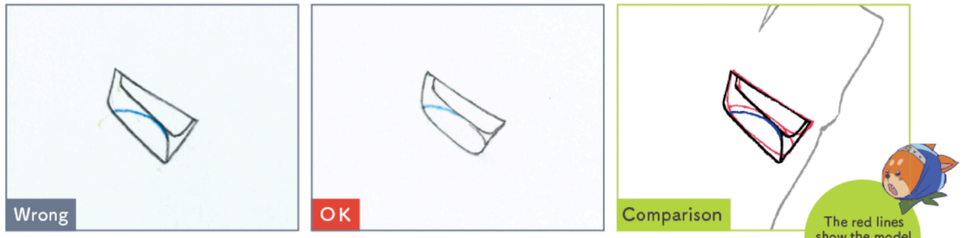


Side-View Kuchi-Paku
Common mistakes

Model example

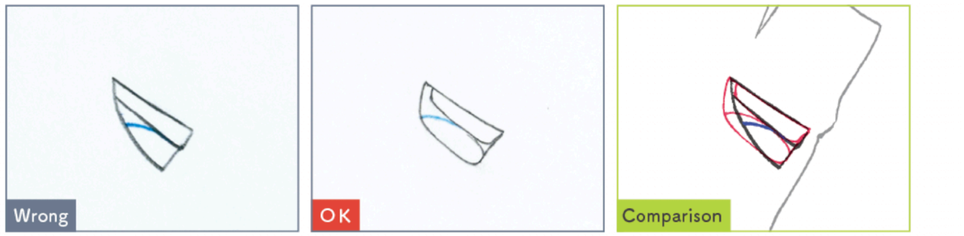


Mistake 1 The shape changed during naka-wari



The mouth has changed into an unnatural trapezoid shape. Do the naka-wari without neglecting the original nuances of the drawings that you traced. Also, be mindful that the area of the teeth doesn't change.

Mistake 2 The shape changed during naka-wari (2)



The tongue has disappeared. Do the naka-wari while maintaining the shape of the aki-kuchi drawing. Make sure the movement is smooth by continuing to check your progress using the te-para method as you draw.

Challenge with Kagemaru!
3 Choice question!

Q Which one of these is used for tap-wari?

- A A metal tap
- B Tap holes
- C Tap water

《Answer B – See page 50!》

Q What should you use to sharpen your pencil?

- A A manual sharpener
- B A box cutter
- C An electric sharpener

《Answer C – Alternatively, a lead pointer works for a lead holder.》

Q What's the " TV size " aspect ratio?

- A 4:3
- B 2.35:1
- C 16:9

《Answer C》

Q What is the minimum number of training hours one needs to have done before being able to draw "lines of television broadcast guality"?

- A 100 hours
- B 200 hours
- C 300 hours

《Answer B – There are some people who can do it in less amount of hours, and others who take longer.》

Q How many seconds does each individual timesheet cover?

- A Six
- B Twelve
- C Thirty

《Answer A – However, if there are many cels overlaid, a 3-second timesheet may be used.》

Q How many drawings are there in a basic kuchi-paku sequence?

- A Two
- B Three
- C Five

《Answer B – That being said, this is not a strict rule, so you should train yourself to be able to adapt to different variations.》

Douga is fun!

One of the important aspects of working as a douga checker is to cultivate the skills of new staff members. Fukui-san, I hear you have a reputation for your rigorous guidance for newcomers – what is the general approach you take towards training?

Fukui
Firstly, I want them to grasp the basic understanding of douga. If they get used to cutting corners when they're still fresh to the job, then that can become a habit they will not be able to get rid of. For example, there were people who, in order to quickly finish a naka-wari sequence, just shifted the genga along slightly and traced it in a new position, and made that into a douga. Newcomers really should practice drawing properly, changing angles etc. instead of trying to find ways around it. Once newcomers are able to do naka-wari properly, that's when douga work starts to become really fun, so I try to teach them the real joy of douga.

That being said, doing naka-wari for douga and scrupulously tracing genga is very rough for new staff members, isn't it?

It's true that this work can be a tough, long road. But we all chose to dive into animation because we like drawing. You often hear people say, "you shouldn't turn things you like doing into your job," but I believe that it's better to have fun with the things you like. Drawings are initially static, but as God created the Heavens and the Earth, you can breathe life into characters. This process is incorporated in the origin of the word "animation", as "to animate" originally means "giving life".

Tomoko Fukui

Born in Chiba prefecture. She began her career at the Tatsunoko Anime Technique Lab, and is currently a freelance animator. After working at Tatsunoko Productions and Toei Animation, she now is a douga-kensa mainly at Toei Animation and Sunrise. She participated as douga staff in works such as Muteking, Macross, the Time Bokan series, the Fist of the North Star series etc. As genga staff, she worked on the Digimon series, Tetsujin 28-gou, and Naruto. She was also a douga checker on Tengen Toppa Gurren Lagann, Hayate the Combat Butler, and Fist of the North Star, amongst others.

There's certainly nothing that can compare to the feeling of watching a drawing you made come into motion.

I always repeat to newcomers that the work of the douga staff is not just to draw. It is to create a performance. Let's say you make seven douga drawings where a head turns 90 degrees from profile to front view. I try to get them to understand that no matter how slight the differences may be, no two drawings will be alike. You can't produce proper douga by simply tracing the pictures in a robotic manner.

Character designers and chief animation directors (sou-sakuga-kantoku) are often considered the stars of animation making, but I started to feel like the fun of being an animator is properly felt at the douga stage.

This is my 45th year on my career path as an animator. Even now, when I draw douga and the character moves as I want it to move, I get very excited. In fact, the hard work I put into drawing actually multiplies my happiness about the results. I don't think anyone can feel satisfaction from a douga that was just slid along and traced over.

What are "maki-mae checks"?

One important role of douga checkers is doing "maki-mae checks." I believe this is also important for training new staff, so could you tell us in more detail what this work entails?

A maki-mae check is what a douga checker has to do on the genga that arrives from the sakuga-kantoku before distributing it to the douga staff. They look through the genga very carefully, making sure that the naka-wari can be done properly from it, and that there are no careless mistakes like omitted details etc. During that process, one can tell which cuts have what number of drawings in them. At this stage, the douga checker can decide which cuts should be passed on to veteran animators, and which should be given out to newcomers to try their hand at, and that's how they're distributed among the staff.

In order to distribute those cuts appropriately, one has to be well aware of everyone's skill level, including of the new staff. What kind of work would you typically give to a newcomer?

To new staff members, I usually give out cuts that have few drawings, or mostly tome-e (still images). Naka-wari is usually made up of many drawings, but in the case of a tome-e it's only one drawing. If there are few drawings, in the worst case scenario I can handle any retakes myself.

Hearing you talk in such detail, one can really understand just how important the job of a douga checker is, but I also hear that shows that do not undergo douga checks are on the increase.

One main reason is the extremely tight schedules of anime shows recently. There are many cases when there is no time to do any maki-mae checks or douga checks, and they just pass on the douga to the shiage staff as is. But if one does not perform checks at some stage, there is always a chance of the end result being negatively affected. As a result, it's the shiage section that ends up having to do the work, such as connecting lines for example. There's even a new word being used recently, "doushi", which refers to douga and shiage being lumped together, but traditionally they both have their own important roles separately.

The stance of NAFCA regarding the term "douga kensa (douga checker)" is that it should be changed to "douga kantoku (douga director)."

Yes. There are different terms which are conflated with douga-kensa, like douga sakkan, douga check etc. Recently, there are a lot of people working as douga-kensa who do not know the first thing about it. I believe that douga-kensa is the unsung hero of the production, and without it one cannot guarantee the quality of a show.

The characteristics of newcomers who grow

Fukui-san, in your career as an animator up to now you have seen many newcomers to the industry; are there any traits that newcomers to the scene who end up going far have in common?
I think it's mostly being proactive in communicating with those around them. If there is anything that they don't understand, those who are able to take it upon themselves to actively ask their superiors and have a dialogue definitely grow. Once, there was a person who would come to work early in the morning and stick like glue to me as I worked, constantly asking me questions.

Since you were so busy with work, did you not mind?
Well, the questions were so relentless that I did sometimes think, "uhh, here they go again" (laughs). But I could see that the enthusiasm in that person was overflowing, and so I did not really consider it to be bothersome. There are some among those who actively ask questions who start off unskilled, but they quickly improve and soon enough start working as genga staff. I would tell them to aim for 500 douga drawings per month, and many of the young recruits would continue to work hard to reach that goal.

Can you share any tips on how to improve drawing skills for newcomers?
While it is important to draw a lot of course, I think the best shortcut to getting better is to have one's mistakes pointed out by skilled people. While it's true that having a drawing you spent a lot of time on heavily criticized by a superior can lead to you feeling low, if you take those criticisms head-on, your drawing skills will improve very rapidly. Our generation was heavily scolded by our superiors and often felt disheartened, but we desperately persevered to get to where we are today.

The teachings of the master come alive

Your teacher was Sadao Miyamoto, who was a sakuga-kantoku (animation director) for Tatsunoko Pro's Science Ninja Team Gatchaman.

Yes, Miyamoto-san produced the first "Tory's High-ball" animations, and after entering Mushi Productions, he worked on One Thousand and One Nights and Gokū no Daibōken. He passed away aged 86. When I asked him if I could call him "master," he responded with, "Would you call me a master? So, could I call you my apprentice?" That made me very happy. The thing I learned from Miyamoto-san which really stayed with me was the stance he had towards work. As soon as I joined Tatsunoko, he taught me all about the conditions when choosing work.

What kind of conditions were those?
Firstly, he told me that it was important to consider what was necessary for myself at that moment, and to make decisions there were three conditions that had to be met. The first is whether the work is interesting or not. Second, if the people I would be working with are interesting or not. This is because if you're able to look at the raw genga drawn by highly-skilled animators, and engage in friendly competition with people on the team as you work, then you can really improve. The third condition is money. If all of these conditions are met, that would be the best case scenario, but of course that is rarely the case, so he taught me to choose carefully which of the three is most important.

Those teachings still resonate today, don't they?
Lastly, Miyamoto-san told me that there was one more important thing. That is a sense of obligation. There are times when you cannot decline work asked by someone who took care of you in the past, so in those cases you have to choose work based on human compassion. I certainly do believe in that. Even now I choose most of my work based on a sense of obligation! (Laughs)

Individuality comes naturally

Having worked as an animator for 45 years, which aspects of douga do you feel are the most enjoyable?
For me, I think the most fun comes from drawing douga that is based on the genga that is done by highly skilled genga staff. I'm very happy when I am able to extract the intentions of the genga staff, such as how they want the drawings to move, what kind of performance they want to give to the character, and then produce douga that is even better than what was originally imagined. One can think of douga work as being limited compared to genga in terms of not being able to show individuality, but I really put my own color in how I do the naka-wari, and so my individuality does show as a result.

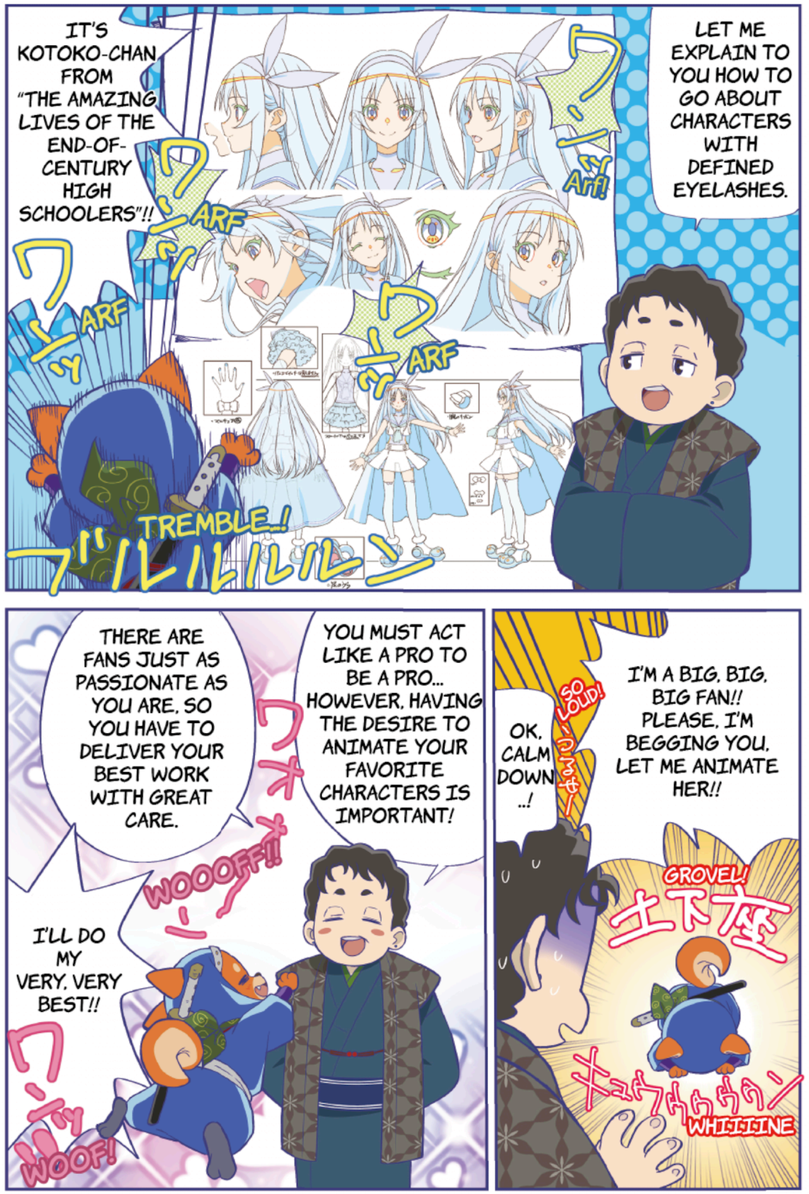
What would you say is necessary in order to show individuality?
Well, it isn't something you can do intentionally. Individuality is something that is intrinsic to a person. Even if you try to hide it, it seeps out naturally, so there's no need to try to exert it. If you're too caught up in consciously trying to put your own individuality into everything, it means you don't yet have individuality to show.

Lastly, please tell us what you're passionate about looking towards the future.
I would like to continue to produce great douga going forward. If douga work is done very meticulously, then the genga staff is encouraged to do even better work, so the overall quality of a show will go up – it's killing two birds with one stone. In my career I've seen lots of incredible looking genga, and I think it's wonderful to have a job where you are able to give life to them through turning them into douga. If I were to describe myself, I might say I'm a "douga otaku". In particular, when you feel you are on the same wavelength as a talented genga staff member, you can create amazing drawings, and it's the best feeling.

"If douga is done very meticulously, then the genga staff will be encouraged to do even better work!"

-Tomoko Fukui

PART.3 Various Me-Pachi Patterns



Me-Pachi Process for Characters with Eyelashes

Looking at it now, it's not just the eyelashes, but the eyes also have a lot of lines to them, so this must be super hard, woof!

You are starting to grasp the point.
In anime, the more lines there are, the harder things get.
Every anime show has its own specifically distinct and elaborate way to depict eyes, so make sure you read the guidelines each time.

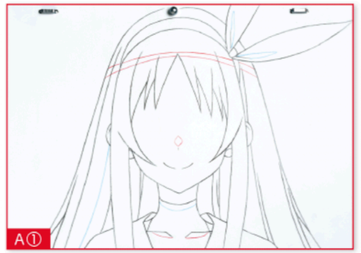
I don't have eyelashes so it's easy! Woof!

Well, I'm afraid I do have eyelashes··· I'm sorry everyone!

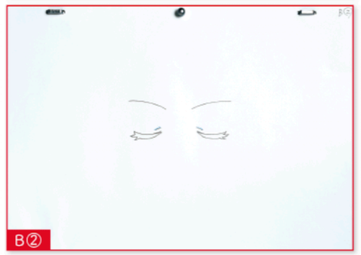
There's no me-pachi exercise using characters with eyelashes in the Level 5 skill test, but you should learn the basics anyway if you want to make your characters move in a cute fashion!

I will work my hardest for the sake of my beloved Kotoko-chan! Woof!

Douga

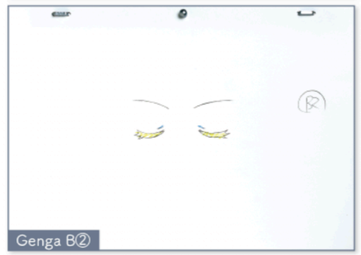

A①

B①

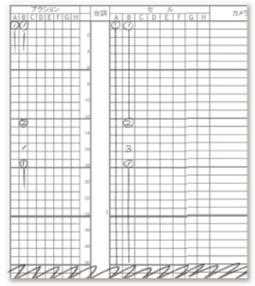

B②

Genga

Genga A①/B①

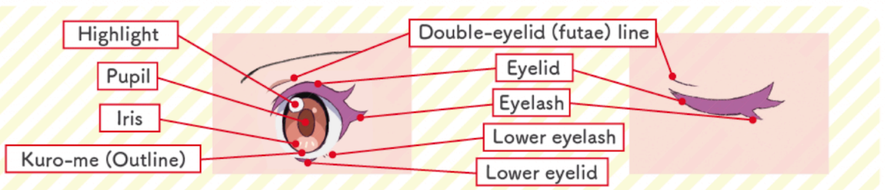

Genga B②

Timesheet



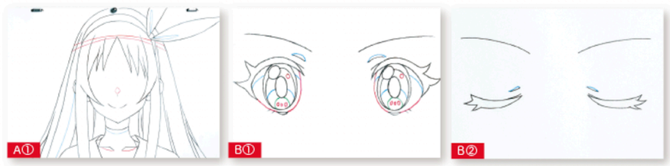
Kotoko's Front-View Me-Pachi Step-by-Step

There are a lot of things to pay attention to when dealing with characters that have eyelashes, so it takes a lot of practice! It is also useful to watch different anime shows and reference those. This time we will do naka-wari for the following drawings. Please refer to the timesheet on page 91.



1

First, trace the genga.



Next, switch on the lightbox and place a piece of douga-youshi on top of B① and B②. Draw the rough naka-wari while doing checks with the te-para method. Begin by first drawing the eyelids without eyelashes. Be aware of the inner and outer corners of the eyes, which will be the base points for the movement of opening and closing the eyelids.

2

Now let's try adding the eyelashes. The angle should be slightly relaxed compared to the aki-me position.
Here, we can't do the naka-wari without adding some "anime magic." If we think about it too realistically, it will become very confusing, so keep in mind that these are meant to be simplified caricature depictions of eyelashes.
As you do the naka-wari, be mindful not to stray from the design of the character so it still looks accurate when seen as a single image.

3

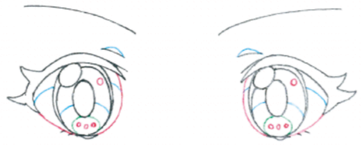
Draw the outlines of the shiro-me (the whites of the eyes) with a color pencil, and those of the kuro-me in regular pencil lines.
Make sure that the eyes don't end up looking smaller compared to the aki-me by drawing them a little wider.
The double-eyelid line should be close to the aki-me, drawn in a slightly lower position but with the same general shape.

4

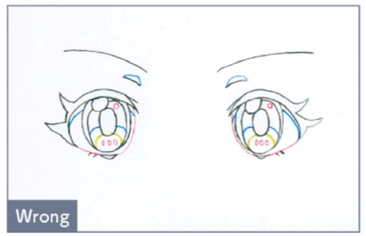
Do the naka-wari for the details in the eyes. Regarding the highlights, please refer to p. 62-63 and animate them according to the spherical shape of the eyeball.

5

Place your rough sketch over the traced genga, then overlay a new douga-youshi on top for clean-up, and do the clean up while refining your rough lines and constantly checking back using the te-para method. It will be more efficient if you switch the lightbox off and on to more clearly check your lines against the drawings below.
Once you're done checking for any mistakes or omissions, you're all finished!

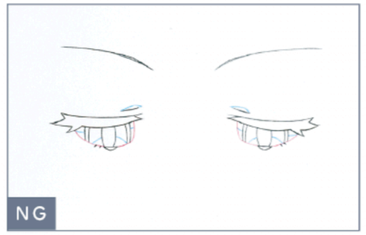


Mistake 1 The eyelashes animation is not proper



Here, the eyelashes have not been animated properly. In particular, some choppiness can be seen when you compare the left and right sides of the parts connecting to the eyelids. Always start off by drawing the outline of just the eyelids.
The highlights also look smaller, so please refer to pages 62-63 and lower them according to the shape of the eyeball.

Mistake 2 The performance has changed

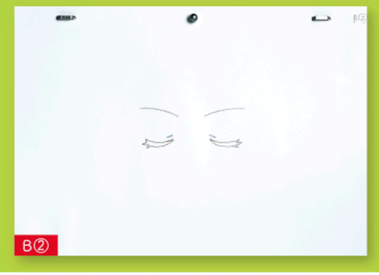


If you draw downcast eyes, then the intention of the performance will change. Unless there are specific instructions from the genga staff, when doing basic blinking, you should always draw the in-between eyes closer to the aki-me position.

Kotoko's Side-View
Me-Pachi Step-by-Step

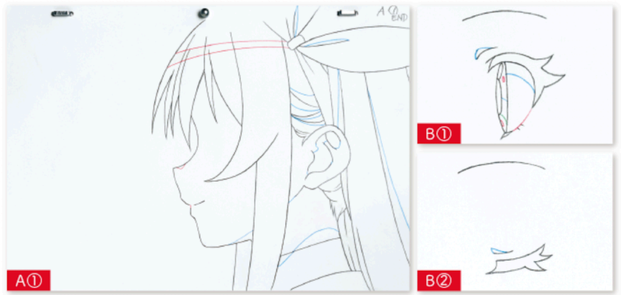
This is how to do me-pachi for a character with eyelashes. Please refer to page 91 for the timesheet.

A①/B①


B②

1

First, trace the genga. The douga numbering is as follows: the head and shoulders are A①, the aki-me is B①, and the toji-me is B②.

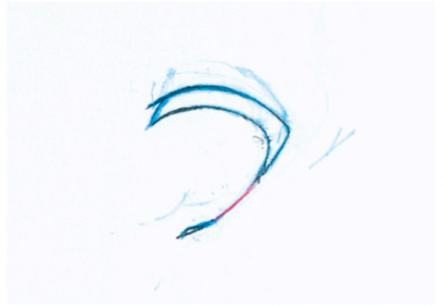

A①

B①

B②

2

Switch on the lightbox, place your douga-youshi over B① and B②, and draw the naka-me sketch (B3) while using the te-para check method.
You should think of the eyelashes and eyelids separately for the side view as well.
The opening and closing motion is done using the inner and outer corners of the eye as anchor points, so even in this case where you cannot see the inner corner, think three-dimensionally to determine its positioning relative to the outer corner (it should be on the opposite side, closer to the nose).

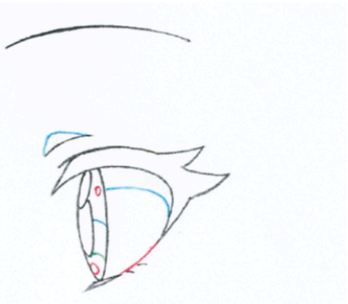


3

Now draw the eyelashes. The angle should be slightly relaxed compared to the aki-me position. Be mindful not to stray away from the design of the character so that it still looks accurate when seen as a single image.
The double-eyelid line should be close to the aki-me, drawn in a slightly lower position but with the same general shape.

4

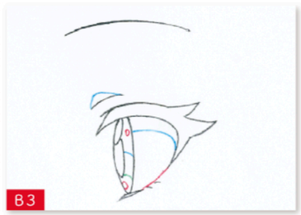
To make sure that the eye doesn't end up looking smaller compared to the aki-me, draw the kuro-me just a little wider – about half a line wider on both sides.
Rather than thinking of it as just a collection of lines, draw with a three-dimensional image in your mind of how the eyeball is physically covered by the eyelid.
Overlay all the materials in order and do the clean up while refining your rough lines and constantly checking back using the te-para method. It will be more efficient if you switch the lightbox off and on to more clearly check your lines against the drawings below.



5

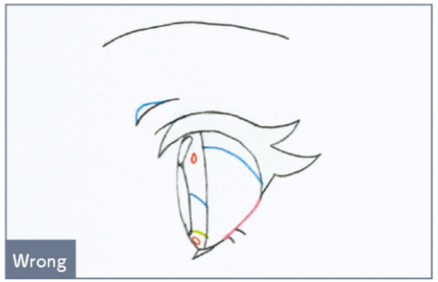
Once you're done checking for any mistakes or omissions, you're all finished!

B②


B3

B①

Mistake The size of the eye has changed


Wrong

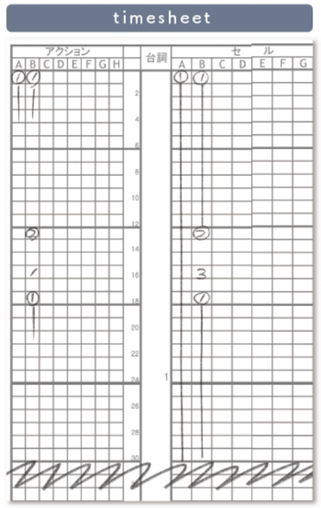
Comparison

Do not simply slide the eyelid from the aki-me drawing down and trace it as is, as in that case the size of the entire eye will change.
Make sure that you base your naka-wari on the idea that the eyes open and close relative to the anchor point at the outer corner of the eye.

COLUMN

These days, character designs with very elaborate renditions of eyelashes are very popular.
For eyelashes that are more realistic without much exaggeration, it's best to study how they are portrayed in live-action movies. Recently, there are also many sophisticated dolls on the market, so it may be a good idea to use those sorts of solid objects in real life as a reference, too. One thing to keep in mind is that you must really concentrate when tracing and doing the naka-wari to be extremely delicate in your linework down to the very tips of the lashes, so as not to ruin the beauty of the drawing.
You need to have a similar approach as to animating hair, so it's a more difficult task. Watch a lot of anime featuring characters with various styles of eyelashes to study up!

Eyes with Various Designs – Front-View



Since we're here, let me showcase blinking animation for eyes with various designs for you.

With this we can try our hand at animating me-pachi for all sorts of eye designs!

This is not necessarily the only correct method, so make sure you always check the chuui-jikou of the show you are working on!

In cases where the upper eyelashes are rather thick, if you begin drawing from the inside line (the side closer to the white of the eye), it will be easier to prevent the naka-me from ending up looking smaller!

PATTERN 1

Naka-wari

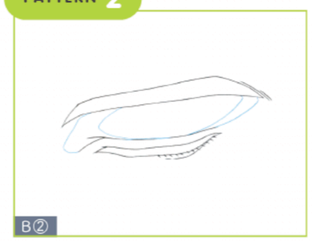
Refer to pages 62-63 to apply a sense of three-dimensionality and do the naka-wari while maintaining the arch shape of the eyelid depicted in the aki-me.
The naka-me has a tendency to look smaller, so while comparing it to the width of the aki-me in the genga using the para-para method, draw it with the awareness that it should be slightly wider than the aki-me.
Changing the angle of the eyelashes gives the eye a sense of being three-dimensional. Draw the eyelashes in a more relaxed angle than that in the aki-me drawing.
If you leave the highlight at the bottom of the iris as it is when doing naka-wari, then the area will get smaller and the overall impression of the eye will change. Try to draw it while being aware that it should expand to the sides.

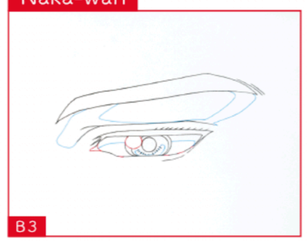
The eyelashes are all bristled so even tracing the genga is difficult, woof…

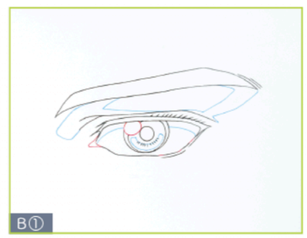
Make sure the root of the lashes does not shift between drawings, and that the tips of the lashes don't end up moving separately!
Keep checking every individual eyelash with the te-para method.

PATTERN 2

Naka-wari



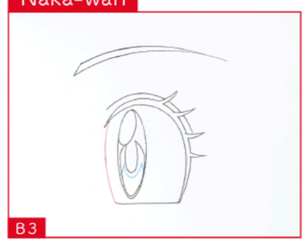


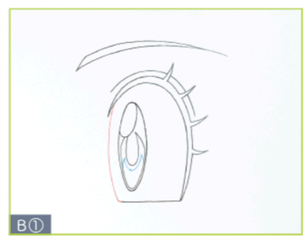


Draw the pupil around the center of the eye without shifting it up or down so that the line of sight (the direction in which the character is looking) does not change compared to the aki-me.
The thickness of the eyelid is different between the aki-me and toji-me. In this case for the naka-wari, match it closer to the thickness of the toji-me - making it a little thicker than the aki-me.
Draw the eyelashes slightly relaxed.
For the highlight at the bottom of the iris, draw it slightly wider so as to avoid making it look like its area has changed.
Do a very simple naka-wari for the line in between the eye and the eyebrow.

PATTERN 3

Naka-wari





When doing naka-wari for a vertical-style eye design, if you draw the naka-me closer to the toji-me, the character design will end up looking different. Draw it closer to the aki-me position, while trying to maintain the essence of the genga.
With these vertical eye designs, make sure that the eye itself doesn't look like it's getting smaller as well.
Expand the arch of the eyelid slightly sideways when doing the naka-wari. As you do this, take great care not to change the placement of the top of the curve compared to the aki-me drawing.
Draw the eyelashes slightly more relaxed, according to the angle of the eyelid. Because the eyelid is not covering the kuro-me, there's not really a need to widen its shape to adjust the size in this case. However, it will stand out if only the kuro-me remains static, so it's best to trace the kuro-me from the aki-me drawing as is, but lower its position very slightly.

PATTERN 4

Naka-wari

Even for eye designs that don't have eyelids or shiro-me, you should draw the naka-wari as if there is an eyelid that covers the eye.
However, bear in mind that this is just an example, and it varies depending on the show.
With some "deformed" character designs, there are cases of me-pachi where there is no naka-wari at all, so you should watch and study those animes to see how they actually move.

Various Eye Designs – Side-View

Here let's take a look at some side-view examples. There is a lot of variety, isn't there! Again, this is just for reference, there are different "correct" ways to depict the movements of the eyes depending on the show.

It also looks fun to think what the correct way to animate them is!

It might also be a good idea to try out some me-pachi for characters that you designed yourself and play around to learn what works!

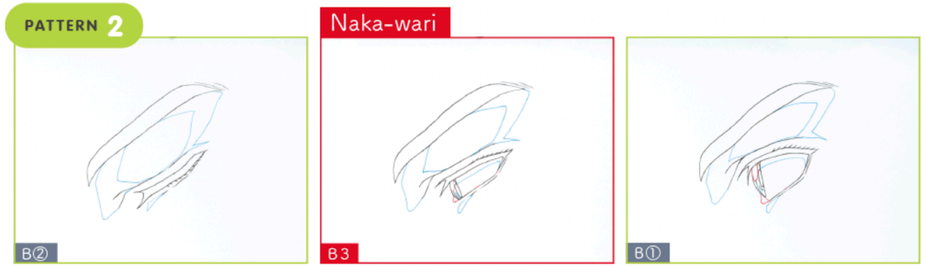
There are so many patterns, I can't remember them all, woof···!

That's OK! These are just general broad variants that exist, but for very special cases, the guideline examples are illustrated in the sakuga-chuui-jikou of a show.
Don't be scared, and try to have fun drawing them!

PATTERN 1

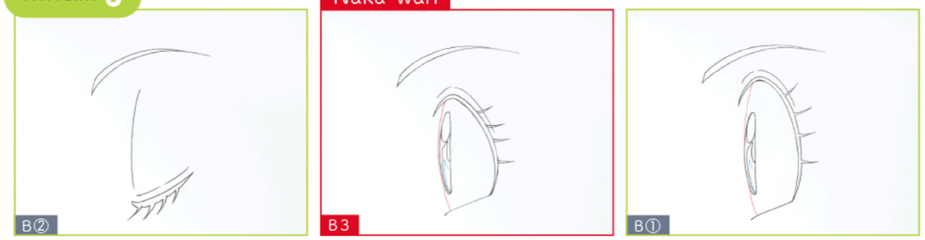
Do the naka-wari while maintaining the width of the shiro-me.
In the case of side-view me-pachi, you should also widen the kuro-me lengthwise a little, almost as if it is being squeezed, so that its size doesn't look like it changed compared to the aki-me.
If you overdo it though, it will look unnatural, so keep checking back using the te-para method to make sure that it doesn't look strange.
Also, pay attention not to forget details like the double eyelid line and the small highlights.
Animate each eyelash carefully one by one so that it doesn't look like they get shorter.

PATTERN 2

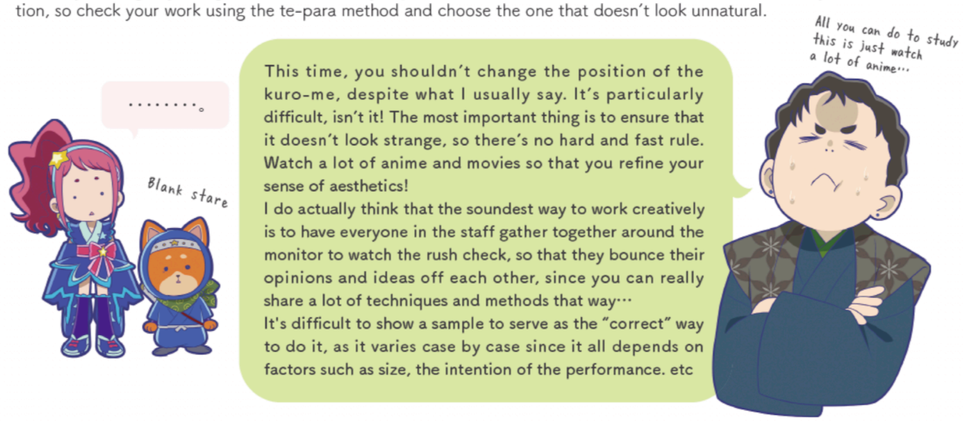


The thickness of the eyelid is different here between the aki-me and the toji-me. In this case, the naka-wari for the eyelid should be adjusted to the toji-me and drawn a little thicker than in the aki-me.
Draw the eyelashes slightly relaxed.
Do a very simple naka-wari for the shadow in between the eye and the eyebrow.

PATTERN 3



Use the outer corner of the eye as an anchor point to close the upper eyelid. Think of the outer corner as the edge of the toji-me.
When doing naka-wari for long, tall eye designs, the design of the character tends to end up looking different if you draw the naka-me close to the toji-me. Draw it closer to the aki-me position while maintaining the essence of the genga.
In the case of the side-view, the kuro-me is smaller than it appears in the front-view, so rather than risking a bad rendition by moving it, you'll get a cleaner look if you just trace it from the aki-me as is. This is also a case-by-case situation, so check your work using the te-para method and choose the one that doesn't look unnatural.



Cel-kasane Quiz! What's the correct answer?

Q3 In front of the bus stop

Hanako is lining up as she is waiting for a bus. Yoshiko and Masao are walking.

(Answer B) Place the cels in order starting with the object furthest away from the camera.

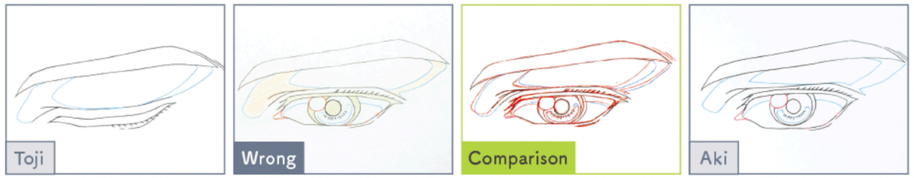
Various Me-Pachi

Common mistakes

Mistake 1 The size of the eye has changed

The entire eye has gotten smaller, so you need to match it to the aki-me by stretching the shiro-me slightly to the sides.
The eyelashes are far too relaxed relative to the degree to which the eyelid has been lowered. Be careful not to make the eyelashes approach the toji-me position earlier than the eyelid itself.
Draw the pupil at a slightly lower placement.

Mistake 2 The eyelashes have choppy movement to them

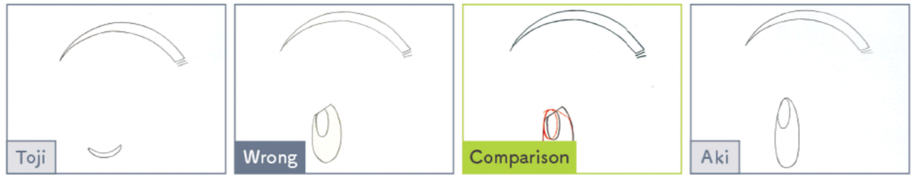


Be careful not to end up with choppy movement on the eyelashes.
The shaded region above the eyelid is unnatural, possibly because the animator was focusing too much on the aki-me drawing. A very simple naka-wari process on the shadow will suffice.

Mistake 3 The eye's shape has changed

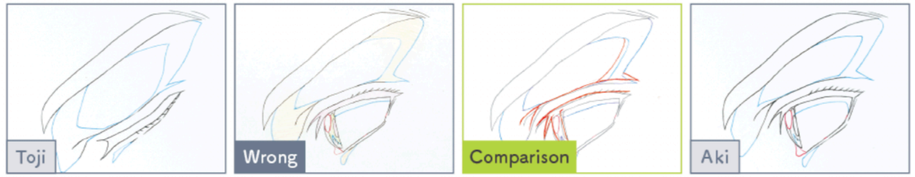
The top of the eyelid's arch has shifted. You should also draw the eyelashes in a relaxed position relative to the angle of the arch.
For those quintessential "deformed" anime eye designs, there's a tendency to lose sight of the inner and outer corners of the eye. Ensure that you have properly identified the placement of the inner and outer corners in the toji-me position before attempting the naka-wari.

Mistake 4 The expression has changed



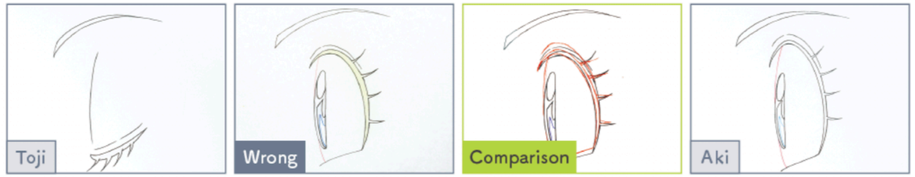
For those designs where there is no shiro-me or eyelid, you must draw while imagining that there is an eyelid.
Even for eye designs that consist of only the kuro-me, check the inner and outer corners of the eye in the toji-me position and start the naka-wari from there.
If the anchor points are ambiguous, then the expression will change. Observing the eyes of animals and suchlike as a reference might be helpful.

Mistake 5 The eye looks like it's popping out of the eye socket



Because the kuro-me has been stretched too widely, it looks like the eye is popping out of the eye socket. Try to dial it back a little.
As for the shadow in between the eye and the eyebrow, it's fine to do just a simple naka-wari between the aki-me and toji-me.

Mistake 6 The angle of the eyelashes is too close to the aki-me position



Because the angle of the eyelashes is almost the same as the aki-me position, you should relax them a little.
The lower eyelid also has no movement. You should move it in the naka-me position.

Discussion

What kind of work is film making?

Director, animator Tadashi Hiramatsu × Voice performer Yuhko Kaida × Voice performer Shunsuke Sakuya

Within the field of animation, the jobs of animators and voice performers are of a particular interest. On this occasion, we asked what director and animator Tadashi Hiramatsu, and NAFCA board members and voice actors Yuhko Kaida and Shunsuke Sakuya had to say about their approach to their work, as well as what messages they have for young people aiming to work in anime.

Working in animation is different to working in manga or illustraiton

How does the work of an animator differ from that of a manga artist or an illustrator?

Hiramatsu
It might seem the same in the sense that in all three you have to draw, but the job of an animator is actually to be a "filmmaker." Of course, there are lots of types of film; for example, those that enjoy TV dramas may want to aim to work in live-action. Animators use drawings to create film that cannot be made through live-action methods. People who find joy purely in making drawings move are probably the type who would strive to become animators.

In order to create film, one must also study other things apart from drawing, isn't that right?

Hiramatsu
That's correct. Animators must not only watch a lot of anime, but it is also necessary for them to watch a variety of visual media, from live-action science-fiction to romance movies, and in that way pick up a lot of hints regarding good techniques to cultivate their ability to create diverse visual expressions.

Sakuya
I often hear people say that because voice performers hold a script and read off it as they act, they don't have to memorize their lines and therefore it's easy. Actually, it's the opposite. The vocal performers have to act without relying on the movement of their bodies or facial expressions – it is a job which requires a skill to express everything through voice alone.

Simplification of drawings is the very thing that indicates the level of skill

Unlike in illustration, what is required for anime are pictures drawn with motion in mind.

Hiramatsu
Recently, there have been so many technological advancements that even complex images, such as those for game illustrations, can be animated. However, in the old days, animators were judged by their sensibility to skillfully simplify a drawing for it to be animated. Take Yasuji Mori or Yasuo Otsuka, for example: they prioritized skill in composing delightful on-screen renditions utilizing simplistic drawings.

How did this form of motion expression with reduced lines that is now a quintessential anime trait come about?

Hiramatsu
Over in the US, animation puts a lot of effort in the movements of the drawings, but in the case of Japan, in particular with TV animation, the limited budget precludes incorporating motion to such an extent. Conversely, if Japanese animators move their drawings too much, it looks unnatural. You can see this even in the ukiyo-e woodblock prints from the Edo period. It's from around this time that the concept of holding a pose in a tome-e – a still image – gained a foothold.

However, with all the added details, isn't it difficult to simplify?

Hiramatsu
I believe that, when you get down to it, the job of an animator is essentially picking and choosing which lines to prioritize. If there are many lines, you have to decide which you need to discard. This is an element that is not present in live-action filmmaking, right? Even when drawing based on a photograph, animator's individuality comes out when you see which lines they choose.

The work of a voice actor differs between anime and live-action

In voice acting, there is live-action dubbing work as well as animation. Do the skills required for each differ from each other?

Tadashi Hiramatsu
Born in 1963 in Aichi Prefecture. He has worked as a character designer and sou-sakuga-kantoku on many shows, including His & Her Circumstances, Yuri on Ice, and Jujutsu Kaisen. In 2017, he won the individual "Animator Award" at the Tokyo Anime Awards. He has been at MAPPA since 2018.

Yuhko Kaida
Born in 1980 in Kanagawa Prefecture. Graduated from the Voice Actor Vocal Department of Tokyo Media Academy. Works as a voice actor and narrator. Her special skill is Nihon buyou (Japanese dance) (Wakayagi school). She has worked on many Japanese dubs for Western movies. Appearances include Wonder Woman and Spy x Family, among many others.

Shunsuke Sakuyo
Born in 1965 in Miyazaki Prefecture. Actor and voice performer. Aside from working on anime such as Frieren: Beyond Journey's End, Great Pretender, and Terror in Resonance, he is also the dub voice for Patrick Wilson, Mark Wahlberg, and Ethan Hawke.

Kaida
I think they are completely different. In a movie dub, you apply your voice to an already completed work. The job entails reading deep into the work to figure out what the director and the actors' intentions were, then performing while being conscious of how to convincingly act out the scenes in Japanese. All of this is in order to avoid breaking the immersion. Alternatively, in anime, our job is the last step in bringing the drawings to life. I think it's a job with a tremendous responsibility in which the performance decides in what way the character will be fully realized.

Sakuya
In the sense that you have to interpret what the characters on the screen are thinking about at any given moment, they are the same. In live-action the work is already finished, and there is sufficient information, but for anime, because technically it is not yet complete, unfortunately we often have to work with what is essentially a work-in-progress footage as we act. I do believe that if we were to work with footage that was all fully completed, and were able to clearly understand the director's intentions, we would be able to do an even better job.

Is it better to have experience of stage acting and suchlike if one is aiming towards working in voice acting?

Sakuya
Controlling one's mental state may be difficult without stage experience. Also, studying breathing techniques is also very important. The way one breathes is quite different depending on age and sex, such as whether one is an adult or a child; for example, for a crying baby, you have to prepare your breathing to match that one of a baby about to cry. In other words, because an emotion comes before any words are actually uttered, you have to convey those emotions using your inward and outward breaths. It's as if those breaths become the words. We all do this naturally in our everyday lives, but when you are given lines to read, if you put all the emotion only into the words, you will get a strange result.

Kaida
Using breath for expression is also important in live-action, and the actual technique varies from person to person. For example, there are cases in which the script would call for specific instances of breathing, but there are also times when breathing is unnecessary, so being able to distinguish those from each other is very important.

There are various patterns of gesturing

It is recommended to watch live-action works to improve drawing skills, correct?

Hiramatsu
Animators need to understand that there can be many variations for a single gesture. For example, let's say you draw a character turning their head around to look behind them. Depending on if it's a slow, frightened turn, or a quick, snap turn, the sense of expression will be different.

I understand that one should interpret that from the e-konte.

Hiramatsu
For that to happen, one must know how people act in certain situations. Another thing that may help understand characters' emotions, is to look through the e-konte, and before drawing anything, read the dialogue out loud.

Kaida
If animation flows too smoothly, it will end up looking like it lacks in dynamic. Just as with traditional Japanese dance, the beauty lies in the art of briefly stopping the movement at a precise point, instead of having a continuous motion. If you play it at double speed, you will lose all of that nuance, so I really wish people didn't watch anime fast-forwarding.

What would you suggest people refer to in order to study detailed movements?

Kaida
There are many older period movies that expertly utilize light and shadow, as well as anime like Ranma ½ that cleverly split up the still moments and the more dynamic scenes, so those are useful to learn from.

Hiramatsu
You can watch live-action videos, or another thing you can do is to observe performers in rehearsal. One can also look at Kyogen (traditional Japanese comedy theater) for references on how to use stillness and movement, as well as how to move people and objects for anime direction. Once the performers are finished with their roles, they move to the back and hold still – I think that's extremely anime-like. Incidentally, Toei Animation apparently used to ask actors to perform in the old days so they could examine their movements.

Aiming to become a creator

Do you have any advice for those aiming to become animators or voice actors

Hiramatsu
When you're young, even after a lot of practice, you may not see many results. But please don't be discouraged; continue down that path one step at a time. When I was just starting out, my parents told me that if things got too tough for me, then I could always come back home – but my attitude was "I can't turn back just because it's a bit hard!" and I kept persevering. If you're a parent with a child who wants to be an animator, please support them.

Kaida
I think the more of a competitive person one is, the more likely they will continue to work as a voice actor. Especially now, in the age of generative AI, we're probably going to start seeing more emphasis on people wanting to stand out and be unique using their true voice, and express themselves using their own bodies, so it will be like a return to our basic roots to differentiate ourselves from machines.

Sakuya
If the goal is to "become" a voice actor, then once they've become one, it will be over. Instead of putting the focus on "becoming," I would recommend shifting the goal to "doing," or else there's nowhere to go from there. I'd rather have people who want to "do" rather than "become" follow this road. Whether your profession is an animator or a voice actor, I think in order to be a next-generation creator, it's essential to have a wide range of interests, and be omnivorous in your studies.

Animator Skill Test

Tracing and Tap-wari Test

challenge level
EASY

Level 6	• Tracing with connected lines • Ura-nuri and nuki-shiji, timesheets
Level 5	• Front and profile me-pachi (without eyelashes) • Front and profile kuchi-paku (without jaw movement) *For those who wish to become professional animators, it is recommended to take the materials combination test.
Level 4	• Broadcast qualty tracing • Mapping out a movement trajectory, and tap-wari with tsume-shiji
Level 3	• Naka-me-pachi, naka-serifu • Turning around from a 45 degree angle
Level 2	• Tracing rough genga with nuance
Level 1	• Tracing and naka-wari for rough genga with nuance

HARD

Dessin-wari Test

Level 4	• Turning around
Level 3	• Running and walking
Level 2	• Effects • Walking and running of animals
Level 1	• Action with wind physics ("Nabiki")

Materials combination Test

Level 1 & 2	•Timesheet •Kumi, jun-kumi •"Book" •Cel work •Regarding hiki speed •Regarding picture resolution •Pan •Quick pan •Tsuke-pan •Follow-pan •Memori-pan •Track up/back (TU, TB) •Quick track up/back (QTU, QTB) •Slide •Fade in, fade out •White (black) in/out •"Follow" •"Wipe" •Toukakou (backlit animation) •"Jump-tap" •Reverse timesheet •Flickering •Micchaku sliding •Strobing •Harmonies ···And other various timesheet directions for camerawork techniques and compositing. *The difficulty level varies between Levels 2 and 1.

Requirements for test-takers

You need to be able to read and write Japanese at the level above a 15-year-old, and have a mailing address in Japan.

From Level 3 onwards, you will need to have passed Level 4 to take the test. For regular members of the public, it is recommended to begin from Level 6 or 5. For those who have some experience, it is fine to start from Level 4.
From Level 4 onwards, it is very difficult to progress without knowledge of kumi and gousei, so study up using the Materials Combination Test Textbook!

For students aiming to become professional animators

Aim to achieve Level 2 of the Materials Combination Test and Level 3 of the Trace/Tap-wari Test by the time you're jobhunting!

For those who self-study and aim to be freelance animators

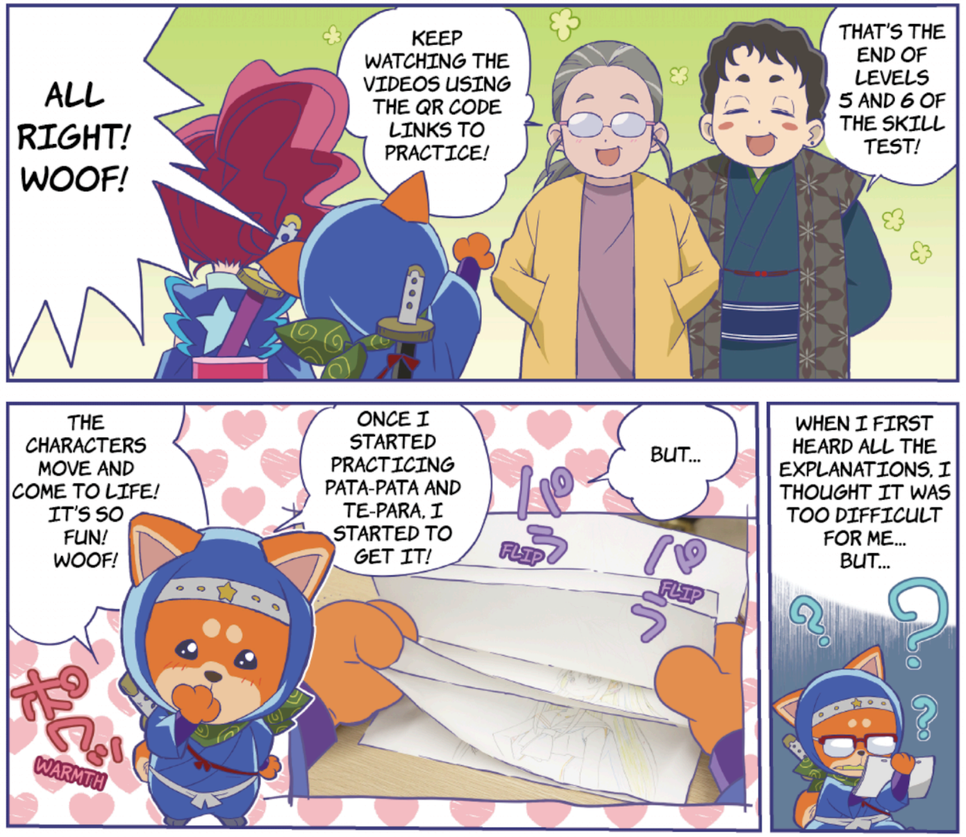
After achieving Level 1 of the Materials Combination Test and Level 3 of the Trace/Tap-wari Test, we recommend you advance to the Dessin-wari Test.
Ideally, you should get the Level 1 certification of the Trace/Tap-wari Test, but the skills involved in mastering line-work varry according to the individual. It's best to start off by mastering the tasks from Level 3 of the Trace/Tap-wari Test, and the Dessin-wari Test.

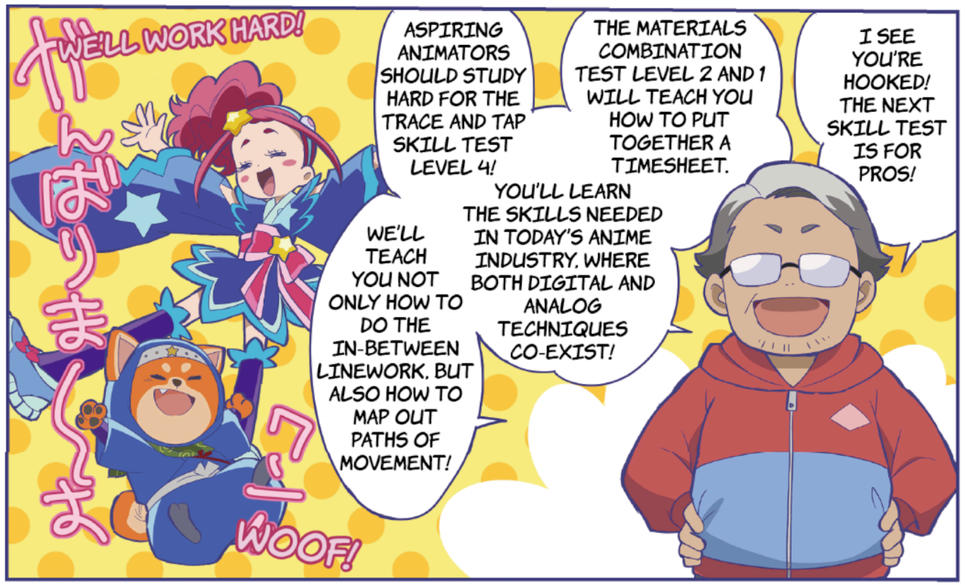
For students aiming for jobs other than animating

Aim to achieve Level 2 of the Materials Combination Test and Level 5 of the Trace/Tap-wari Test by the time you're jobhunting! For those who are not confident about their drawing skills, try to attain Level 6 of the Trace/Tap-wari Test and Level 2 of the Materials Combination Test.

For those aiming to become douga-kantoku

It is recommended that you achieve Level 1 of the Materials Combination Test and Level 1 of the Trace/Tap-wari Test, then advance to the Dessin-wari Test.
The industry as a whole is in dire shortage of douga-kantoku staff. We are waiting for you to rise to the challenge!





About Test Criteria

Trace/Tap-wari Test

\Anime fans can do this!/

Level 6

As a minimum requirements, you should be able to draw unbroken lines, do ura-nuri, and fill in the timesheet with instructions for a tome sequence, in order to pass.

\Anime fans can do this!/

Level 5

To pass this level, you will need to be able to perform simple me-pachi for characters without eyelashes and kuchi-paku, as well as filling in the timesheet. Although this level does not specifically judge the quality of your linework, before attempting this test you should train drawing cleaner lines than in Level 6 in order not to make your naka-wari appear choppy.

\You need to polish your linework skills!/

Level 4

From this point on, the test is geared towards those aiming to be professionals.

The test will judge whether or not the linework and tap-wari skills are up to par with the professional standard. If you pass Level 4, you can shorten a certain amount of the training period for tracing and tap-wari when you enter a production company.
Make sure you showcase this achievement in the "qualifications" section of your resume when jobhunting.

Materials Combination Test

Level 1&2

This test looks at your knowledge regarding timesheet, camerawork, cel-gousei, kumi, "book", and such, and is therefore essential for anyone aiming to work in the anime industry. The first test will be held in 2025.

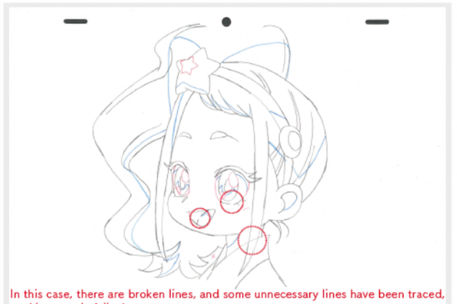
* Much of the content of the textbook is compiled based on the requests of staff in the shiage and satsuei departments. Even if you are already currently working, it is recommended that you refer to this book.

Levels 6 & 5

Pass

At Level 6, there is no judgment regarding the quality of the linework. As long as the lines are closed, you can pass.

Fail



In this case, there are broken lines, and some unnecessary lines have been traced, so this example fails the test.

Level 4

Pass

In order for the scanner to pick up the lines properly, the line density should be uniform throughout. You can pass if you achieve this.
For Level 4, apart from tracing, you will also be judged on your tap-wari ability.

Fail

Because the benchmark for passing the test is whether the traced lines are suitable to be broadcasted or not, one cannot pass based only on the criteria of whether lines are connected.

Guidelines concerning the usage of this book and related materials

What is OK to do

- You may use this book and its materials to practice your anime-making skills. Please work hard using this book and the materials book sold separately to gain more practice on tracing, naka-wari, coloring, satsuei, etc.!
- You may use what you practiced from the textbook and materials for your portfolio. You may also upload your works to various social media and video-sharing platforms. If you want to upload excerpts from the textbook itself, please use a blur filter.

What is not OK to do

- Copy and scan the data from the images or videos and pass them on to someone else.
- Resell the book.
- Use it to train generative AI, or to produce output using AI.
- Distribute merchandise based on the characters featured in the textbook for commercial purposes.
- Use the NAFCA or Animator Skill Test logos or icons without permission, or produce things similar to them.

For inquiries regarding the usage of the Animator Skill Test textbook and materials in company training programs and events, please contact us at the email address below

NAFCA Secretariat jimukyoku@nafca.jp

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We are accepting donations to conduct the Animator Skill Test more smoothly .
We would greatly appreciate your support.

Animator Skill Test
(Trace & Tap-wari test, Levels 6 & 5)
Glossary of Terms

A~B

- **Aori** 54
  A drawing/shot from a low angle looking upwards, or the naming of the angle at which this is done. Opposite of fukan.
- **Aki-kuchi ("Open mouth")** 77
  The mouth is at its widest open potision in that drawing.
- **Aki-me ("Open eye")** 61
  The eyes are at their widest open position in that drawing.
- **Atari (Rough sketch)** 52
  A rough drafting process in which rough positions of characters/objects and other elements are decided.
- **Animator** 4,16
  In anime production, it is a person who makes the pictures move and breathes life into them. Derived from a word (to) "animate." It is a general uniquely used in the animation industry term for various positions such as douga and genga (see page 16). The shiage, color design, direction, and production staff are different positions and not considered "animators."
- **Bijutsu(or Haikei-bijutsu)(Art department, background artist)** 15
  The staff who draws the backgrounds based on the layout/genzu.

C

- **Cut** 26,31
  A continuous piece of footage without break until the background changes. The smallest unit in video footage production.
- **Cut-bukuro ("Cut envelope")** 26,38
  An envelope containing necessary materials to be passed along to the various animation staff. Information about the contents is written on the envelope.
- **CG (Computer Graphics)** 15
  A type of material created digitally. There are flat 2DCG designs and 3DCG designs that have volume to them. 3DCG is often used for layouts (genzu), cars, and machines. 2DCG is used to create colored materials, such as kimono patterns and detailed logos, and map them to other elements.
- **Cel** 32,24 83
  A type of material which contains elements of the picture other than other than the background. It is sometimes used as a unit, such as "A Cel" and "B Cel." The correct English spelling is "cel," but some timesheets have it written as "CELL." The name comes from the original analogue production material made from cellulose.
- **Cel-kasane (Cel overlay)** 34,83
  The process of layering the that have been divided into the parts of the character that move, and the parts that do not move. The instructions for this are written on the timesheet.
- **Cel work** 35,83
  The process of working on cels in accordance with the specific instructions for that cut, such as the order in which the cels are layered, and drawing only what should be drawn on each cel.
- **Character-hyou (or Kyara-hyou, Kyara-settei / "Character chart, Character sheet")** 36
  A chart (including things other than the san-men-zu) that shows the designs and basic facial expressions of the characters. It is used as a reference by all the staff involved in the show's production.
- **Character Designer (Kyara-Deza)** 16
  They are responsible for creating the san-men-zu (three-perspective view drawings) drawings and kyara-hyou that form the basis of the characters. They arrange the lines so that the staff in all stages of production can easily understand the structure of the characters and make them move.

D

- **Dessan (sketch)**
  A French word ("dessin") employed in Japanese to mean a drawing style that, when drawing a three-dimensional object as a two-dimensional image, captures the characteristics of the shape of the object, its highlights and shadows, etc. It is an art technique that expresses volume and texture through the variances in line strength, and is also called "sobyou."
- **Dessan-wari**
  Unlike tap-wari, this is an advanced technique for doing naka-wari which focuses on the changes of shapes in each drawing based on the understanding of its dessin.
- **Dendou-keshi-gomu/ Den-keshi (Electric eraser)** 12
  A tool used when you want to erase small details precisely.
- **Douga** 15,18 30
  The process of cleaning up each genga [ni-gen] drawing, and doing naka-wari in between the different genga drawings. The word is also used when talking about douga materials.In addition to creating the line drawings that will actually appear on-screen, this job also includes tasks for later stages in the production pipeline, such as tracing some specific lines in color pencil and doing the ura-nuri. Whether the shiage and satsuei staff can perform their tasks smoothly is all dependent on the douga staff's skill.
- **Douga-kantoku, Douga-kensa (Douga checker)** 8,19
  Members of staff whose role is to check that there are no defects in the douga drawings sent to the shiage staff, and make sure that there are no inconsistencies in the finished douga.

E~F

- **Enshutsu staff** 14,27
  A person who is responsible for the content of each episode. They are sometimes called the episode director. They diligently interpret the intentions of the director and the scriptwriter, and devise colors and sounds to make the work as good as it can be. They also check layouts and genga, and do editing work.
- **E-konte (storyboard)**
  Blueprint drawings for what is going to be on-screen. Other than the basic layouts which give an idea of what the screen composition will look like, it also contains almost all other necessary information, such as dialogue, performance, sound effects, camerawork, visual effects, and background music directions. In anime production, virtually every stage of the pipeline works off this document.
- **Fukan** 54
  A drawing/shot from a high angle looking downwards, or the naming of the angle at which this is done. Opposite of aori.
- **Fureemu ("Frame"/border)** 37
  The frame of the screen: specifically, the black border on the layout paper that shows the area that will actually be visible upon broadcast.

G

- **Genga** 14,17 27,30
  The drawings that depict key points of the movement. The term can also include a timesheet denoting the specific timing and number of naka-wari drawings. The genga staff are tasked with creating layouts and key drawings. A high level of expertise is required to draw the key points of the movement.
- **Genga check** 15,27
  The process of checking if the movement matches up with the desired performance by the enshutsu or sakuga-kantoku.
- **Genzu (or Haikei-genzu / "Composition," "Background composition")** 14,27
  One of the tasks of the genga staff. It serves as a rough draft of the background. The background artist draws the background (BG) based on this.
- **Gousei ("Combine" – Different from kumi)** 83
  The process of combining multiple cels.
- **Genga-trace, Gen-tore (Tracing)** 9,30 40
  The process of adjusting and cleaning up the lines of the genga drawings.

H~I

- **Harikomi (Mapping)**
  The process of applying the materials created by the designer or background artist onto the cel, performed by the satsuei staff.
- **Hikiutsushi (Shifting and tracing)** 66,73
  Tracing the same drawing again but in a different position when doing naka-wari.

I~K

- **Iki-sen ("Living lines")** 46
  The lines that should be chosen to be cleaned up when tracing. Opposite: shini-sen ("dead lines").
- **Ichi-gen (or Dai-ichi-genga / "First genga")** 14,27
  A more carefully drawn rough genga so that it is easier for the 2nd genga staff to clean it up. Rough genga and ichi-gen can sometimes mean the same thing.
- **Iro-trace ("Color trace")** 12,43
  When there are no black outlines, lines are drawn with colored pencils to make it clear for the shiage staff where the non-black boundaries/outlines are.
- **Iro-mihon ("Color sample")** 36
  A sample colored drawing with the colors decided by the color designer (shikisai-sekkei staff). A colored character sheet (kyara-hyou).

J~K

- **Ji-keshi-ban (Eraser shield)**
  A tool used when you want to erase only specific lines.
- **Kyara-bure ("Character inconsistencies")** 17
  When the facial expressions or other parts of a character that are a part of the acting are inconsistent and look unnatural.
- **Kuchi-paku (lip-sync)** 75 ~86
  The action of opening and closing the mouth when the character is talking. Doing naka-wari on the mouth so that it looks like the mouth is opening and closing.
- **Kumi (Joining)**
  Arranging and combining different materials together, such as cels with other cels, backgrounds with cels, cels with CG, etc. Or cutting certain parts out so that they do no overlap.
- **Kumi-sen (Joining lines)**
  A line used to depict the border between materials for a part of them to be cut so that they do not overlap.
  Variations include kumi and jun-kumi (the Materials Combination Skill Test expands upon this in more detail).
- **Koma**
  A frame of film (note that the English word "frame" alone can easily be mistaken for the number of frames in a video or the "frame" printed on the layout paper).
- **Kabuse-serifu ("Dialogue overlay")** 82
  An instruction to overlay a cel portraying a naka-kuchi or aki-kuchi in cases when the toji-kuchi is drawn directly on the character cel. This method cannot be used if the toji-kuchi is still visible after the overlay.
- **Kara-cel ("Empty cel")** 33
  When a cel is there but there are no drawings on it. This is marked as "X" on the timesheet.

L~M

- **Layout check** 14,27
  The process of checking the layout produced by the genga staff, performed by the enshutsu, sakkan, and sou-sakkan.
- **Layout (or L/O)** 14,27
  The entire composition of what the screen will look like. The step in which the angle of view and framing are decided, with annotations regarding what will be drawn as cels, which elements are CG, background art, camerawork instructions, etc. The job also entails creating genzu, rough-gen and a timesheet. The respective materials are also called that. Sometimes the term "layout" refers simply to the composition or genzu. This is a very important stage in the production pipeline as it has a major impact on later processes.
- **Maki-mae check (or, Dashi-mae check)** 15
  The checking procedure undertaken by the douga-kensa staff before handing the materials over to the douga staff, which involves things like checking whether the animation instructions are appropriate on the genga drawings and timesheets, and whether there are any lines missing on the drawings.
- **Me-pachi (Blinking)** 60 ~73
  The action of opening and closing the eyes.

N

- **Naka-kuchi** 77
  The intermediary position of the mouth in the naka-wari, between the open and closed mouth, drawn when animating kuchi-paku.
- **Naka-mai-suu (Number of douga drawings)** 31
  Instructions on the timesheet indicating what should be made into douga drawings.
- **Naka-me** 62
  The intermediary position of the eyes in the naka-wari, between the open and closed eyes, drawn when animating me-pachi.
- **Naka-wari** 18,30
  One of the tasks of the douga staff. The process of drawing the intermediary positions between the various genga drawings, so as to connect the movement.
- **Ni-gen (or, Dai-ni-genga)** 14,27
  A cleaned-up version of the ichi-gen, or the process of cleaning it up.
- **Nuance** 40,43
  Identifying the essence of the qualities implied within the rough state of each genga drawing, such as "soft" or "hard," "near" or "far", and expressing them in the drawings through variation in the usage of lines. Also called "shaping the drawing".
- **Nuki-shiji** 37
  When doing ura-nuri, nuki-shiji is making an "X" on the sections that should not be colored to instruct the shiage staff not to color them. Sometimes written as "nuki".

P~R

- **Paasu ("Perspective")** 17,48
  A technique of depicting depth of space using lines on flat media. Also called "perspective drawing".
- **Pakaru (verb form of Paka)** 41,81
  A mistake caused by forgetting to draw or color a section. When doing te-para or after being exported as footage, these areas flicker rapidly, or look "choppy."
- **Pata-pata** 41
  The action of checking the animation by rapidly flipping over only one sheet of paper to compare it with the drawings below.
- **Para-para** 41
  The action of checking the animation by rapidly flipping over multiple sheets of paper in succession. When checking a small number of drawings, it is often called "te(hand)-para" or "yubi (finger)-para." "Para-para" is mostly used when checking the whole sequence.
- **Rough-genga (or Rough-gen)** 14,27
  Rough versions of genga materials drawn by the genga staff in coordination with the director based on the e-konte (storyboard) that portray the basis of the motion. Rough-gen is sometimes also called ichi-gen.
- **Rush / Rush check**
  Short for "rush film." A check done after the satsuei (compositing) stage to decide whether any retakes are necessary. All departments perform this check.

S

- **Sakuga-uchiawase ("Animation meeting," Saku-uchi)** 14,27
  A meeting between the genga staff and the enshutsu staff to create layouts.
- **Sakuga-kantoku (Animation director, Sakkan)** 17
  Corrects all the layouts (genzu and ichi-gen) provided by the genga staff in accordance to the direction of the enshutsu staff, and fixes the drawings to standardize their look.
- **Sakuga-chuui-jikou ("Animation precaution notes")** 36
  A set of points to pay particular attention to when drawing, such as line thickness and whether eyebrows show through hair. These vary from show to show.
- **Satsuei ("Shooting," digital compositing)** 15
  The process of combining the cel data and other materials to complete a cut.
- **San-men-zu ("Three-perspective view drawings")** 16
  Drawings of a character seen from the front, back, and side views. This is the basis of the character drawings that will be used as a reference by people in all production stages.
- **Shiage ("Finishing," coloring)** 15,37
  The process of coloring the cleaned-up line drawings after the douga stage is complete. The shiage staff (colorist) is responsible for coloring the drawings according to the instructions of the shikisai-sekkei (color designer).
- **Shikisai-sekkei (Color designer)** 15
  A staff member responsible for designing the color palette of the entire anime. They decide and adjust everything involving color, such as which colors will be used for every scene depending on the background.
- **Seisaku-shinkou (Production assistant)** 73
  Production assistants manage the schedule and check each stage of the production so that the entire workflow proceeds smoothly. They are sometimes simply called "seisaku" or "shinkou."
- **Sen-nuke (Missing linework)** 55
  Lines that have been forgotten to be drawn during the tracing or naka-wari process.

NAFCA
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話数 / サブタイトル	シーン　カット	秒数	名前	シート
	—	+		枚 ／ 枚目

メモ：

＜撮影処理＞

アクション A B C D E F G H	台詞	セル A B C D E F G H	カメラ
2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72	1		
	2		
	3		

アクション A B C D E F G H	台詞	セル A B C D E F G H	カメラ
74 76 78 80 82 84 86 88 90 92 94 96 98 100 102 104 106 108 110 112 114 116 118 120 122 124 126 128 130 132 134 136 138 140 142 144	4		
	5		
	6		

- **Toji-kuchi (Closed mouth)** 77
  The position within a sequence of lip movement (for speech) in which a character's mouth is completely closed.
- **Toji-me (Closed eye)** 61
  The position within a blinking sequence in which character's eyes are completely closed.
- **Tracebox / Lightbox** 12
  A device used when tracing. When switched on, it emanates light from underneath pages stacked above one another, allowing the image on the paper at the bottom to show through pieces of paper placed on top.

U～Z page

- **Ura-nuri ("Rear coloring")** 12、37
  A type of douga work. Shadows and other parts are marked using colored pencils on the back side of the douga-youshi to make it easier for the shiage staff to tell which line is which.
- **Waru, -wari**
  The Japanese term for "splitting," or "dividing." Commonly used in combination with other words within anime production because the method of animating employed is based on establishing key points in a movement sequence, and then "dividing" it into a specific number of drawings to fill in the gaps between those points.
- **# ("Sharp," Hash/Pound)** 26
  A symbol used to denote an episode number. E.g., #1 = Episode 1.
- **Sou-sakuga-kantoku (Chief animation director)** 18
  The person who further standardizes the drawings of the sakuga-kantoku. The goal is to match the character designs as closely as possible to eliminate discrepancies.

T page

- **Timesheet** 26、31 32、39
  An instruction document for each section that describes the duration and timing of each cut, its camerawork, and satsuei effects.
- **Tap (Peg)** 12、50
  A tool to attach the douga-youshi (animation drawing sheets) in place together. It is rectangular and made of metal, with three pegs of different shapes.
- **Tap-wari** 50
  A technique for drawing naka-wari (in-betweens) smoothly. It serves as a method for drawing trajectories (path of action) and shapes quickly and neatly.
- **Tsume-shiji** 51
  A type of instruction from the genga staff to the douga staff. Drawn in the form of gauge, it shows the distance between each naka-wari. It marks the positioning whitin the genga that each douga drawing should be drawn closer to. (see "tsume-haba" for more detail)
- **Tsume-haba** 51
  This refers to the specific distance between each of the naka-wari positions in the "tsume-shiji" that dictate the motion of the naka-wari. In cases when the number of koma is kept the same, the longer this distance, the faster the movement will look, and the shorter (tsumeru – "tightening") it is, the slower the motion will appear to be.

Kagemaru
Genga: Muroi Fumie
Sakuga-kantoku: Umakoshi Yoshihiko

This textbook opens from the right and is read from right to left.

NAFCA
Nippon Anime & Film Culture Association

We want to believe that animation has a future.

What is NAFCA? The Nippon Anime & Film Culture Association is a general incorporated association established with the goal of preserving, developing and popularizing animation and its culture.

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They host study sessions and seminars on anime every month!

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Invaluable source of information useful for job hunting!

HRD (Human Resource Development)	Hosting The Animator Skill Test and study sessions, etc.
Free email magazine	Published monthly; information on anime production and events, etc.
Seminars	Hosting seminars featuring explanations of each job category in the anime industry, effective work methods and tax returns, etc., taught by a wide variety of lecturers
Policy proposals and industry hearings	Conducting surveys to gain an accurate understanding of the industry's current situation, and, based on this, relaying suggestions to lawmakers
Anime event community activities	Hosting gathering events to increase interaction between those inside and outside of the industry, such as mutual exchange between voice actors and animators
Others	Archiving materials, and seeking for social uses thereof

Membership applications accepted all year long!

Membership type	Reviewed entry process	Fees	Participation in internal industry events	Special member's price for participation in events	Email magazine
Anime Industry Regular Member	Yes	Entry fee: ¥5,000 Annual: ¥15,000	Yes	Yes	Yes
Supporting Regular Member	No	Entry fee: ¥5,000 Annual: ¥15,000	No	Yes	Yes
Associate Member	No	No	No	No	Yes
Contributing Member	No	Annual: from ¥100,000	No	Yes (Up to five people per group)	Yes

Scan here to apply▶

There are many seminars you can attend even as a free member!

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Animator Skill Test Animator Skill Test
Trace / Tap-wari test Levels 6&5

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